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Ninth Annual Edition

United States-German Economic Survey 1983

Issued January 1984

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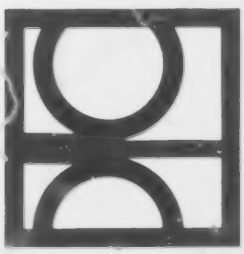

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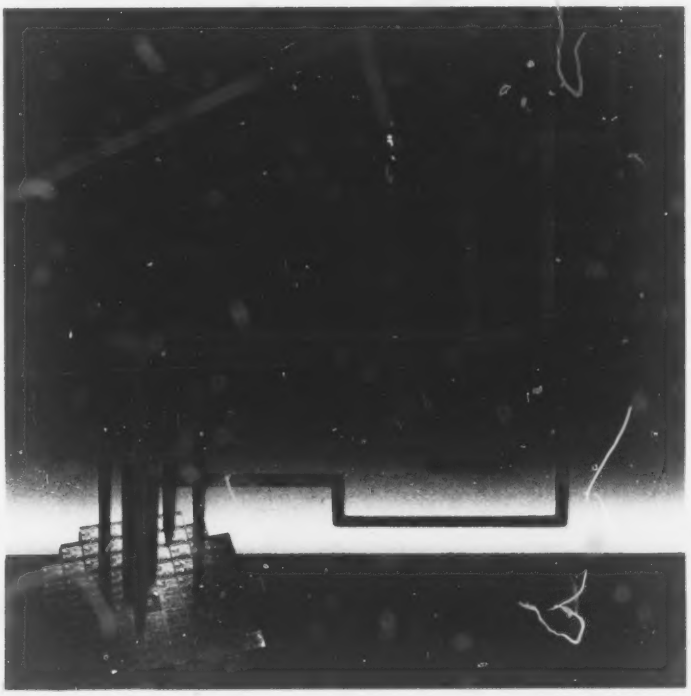

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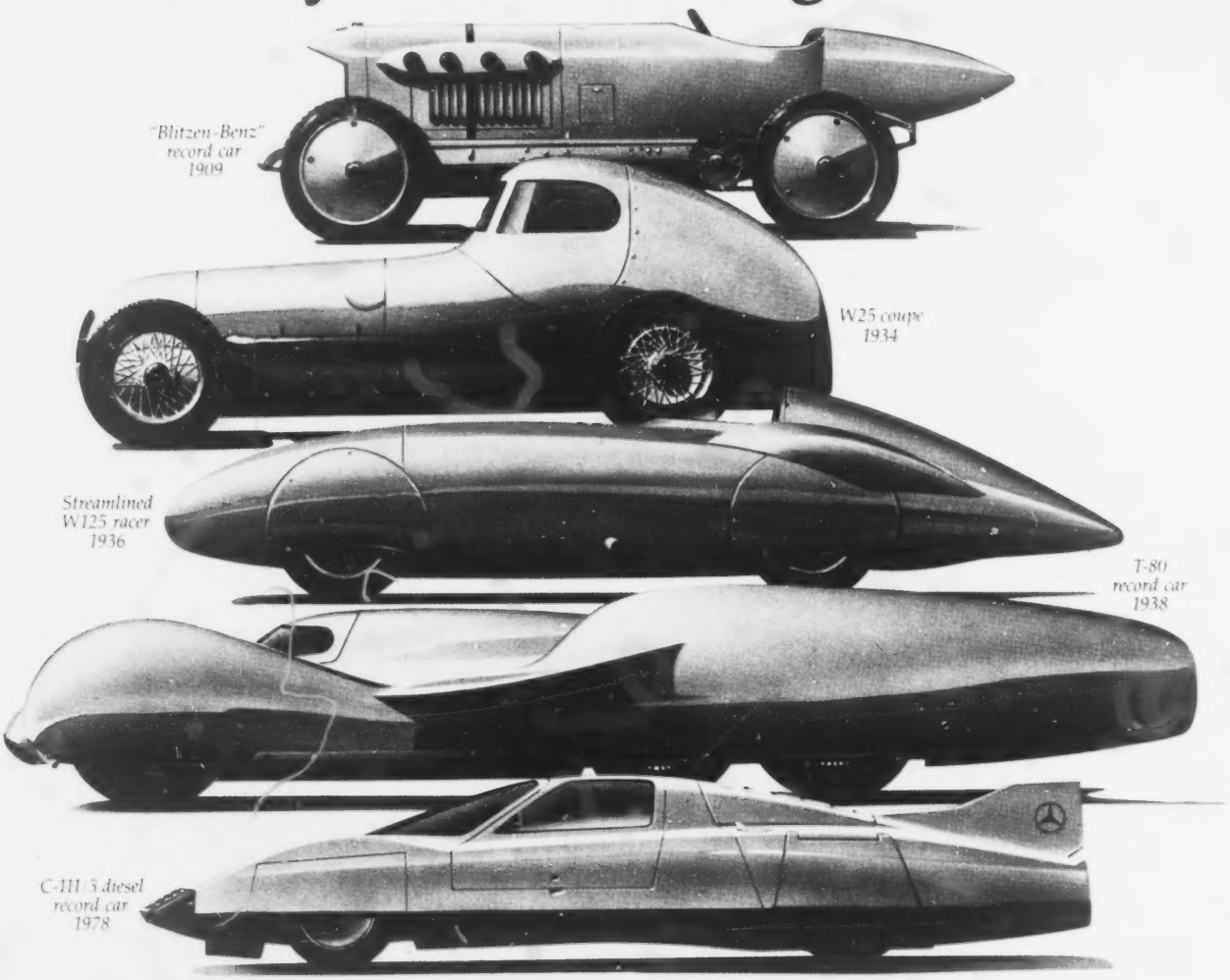
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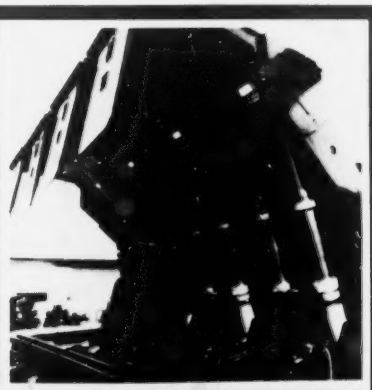

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PREFACE

The publication of this ninth edition of the United States-German Economic Survey at the end of 1983 serves as an appropriate occasion to cite three developments in the economic and commercial relations between the Federal Republic of German and the United States, the world's two greatest trading nations.

First and foremost, we have this year experienced economic recovery, led by robust growth in the US. A year ago at this time the prospects weren't all that encouraging. An international financial crisis had blown up in the face of the world's lending institutions, world trade had actually declined in volume and value, unemployment in most of the industrialized world had attained worrysome heights. America suffered an 8.2 percent shortfall in industrial production, and in Germany a similar decline of 2.3 percent mirrored overall pessimism. Growth in both countries last year was simultaneously negative for the first time in memory. Real GNP fell 1.9 percent in the US while in the Federal Republic the drop was 1.1 percent.

This year the picture is appreciably different. While there is real reason for concern, a brighter outlook is emerging on several broad fronts. The world's energy situation has demonstrated medium term adjustment in the marketplace. Unemployment in both America and Germany has stabilized. There are signs that international financial reform may make cautious headway in 1984. The concrete economic results in both nations this year do not look bad. In the US industrial production recorded three consecutive quarterly increases, the first gains since the third quarter back in 1981.

In Germany the story is much the same. The 2 percent production increase recorded in the first quarter of 1982 marked the first such advance since April of 1982. And the growth picture has improved. After last year's sour result, in 1983 it is clear that GNP will grow both in Germany and in the United States. An increase of at least one percent in the Federal Republic seems certain, and growth of 5 percent in America is not at all out of reach.

Financial developments continue to play an overweening role in our bilateral trade relations. While German exports to the United States were up at mid year well over 10 percent in volume German imports from America had dropped off by nearly the same degree. Exchange rate movements in 1983 distorted what historically has been a very balanced trade flow.

The second event we wish to record here is the observance in 1983 of three centuries of German emigration to America. The visits of Vice President Bush to the Federal Republic and of Federal President Carstens to the United States this fall commemorated the complementarity of our two economies which has developed since World War II. It can only be recalled here that both Germany and the US share a fundamental concept of a market economy based on competitive and private initiative in an open global trading system. The transatlantic events in honor of the seven million Germans who have left their mark on American economic life since 1683 once again reaffirmed our faith in these principles.

The last point of reference in this preface concerns the survey itself. This year's edition records basic changes which have been in progress in both our economies for some time now. The internationalization of the service sector proceeds apace. In our 1983 survey important contributions assess this trend in the insurance, banking, and investment sectors. Industrial and energy policy are confronted with new realities in the 1980s; these are explored in this year's edition as well. And the leaders of two of the world's top auto producers discuss the challenges of robotics. To these, and to the other contributors to this year's United States-German Economic Survey, we offer our warmest gratitude.

Werner Walbrol
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The View from Bonn

by Dr. Gerhard Stoltenberg
Minister of Finance,
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From the German point of view, the global economic scene doesn't look that much different than it does from the American side. The interests of our two nations are too congruent and our economic policy views are too related for this to be otherwise.

Our two nations are the world's greatest trading nations, with the most important reserve currencies. After the dollar – which leads the pack by far – the D-Mark is the second most important reserve currency. In the currency area of the European Monetary System, which approaches the US in economic potential, the D-Mark holds a central position. The capital markets of the USA and the Federal Republic are open to the world and their banking systems are to a high degree integrated internationally.

Our nations therefore share a vital common interest in securing the basis for inflation-free economic growth and in creating an improvement in the labor market, namely:

- defense of free, multilateral world trade against the attacks of protectionism
- the maintenance of currency stability and the preservation of orderly exchange relations
- the strengthening of the international financial system after the jolts of the recent period

Of course, differences in world economic weight and intensity color the present perspective.

Nearly 39 percent of the gross product created in the western industrialized nations in 1981 was created in the USA. On the other hand, US imports and exports – despite their absolute size – represent less than 10 percent of America's domestic product. The impulse which is sent out from the US to its trading partners is much greater than the effect on America from these nations.

In the smaller industrialized countries, like Belgium and Holland, dependence on foreign trade reaches 50 to 60 percent. The imperative of foreign trade in the economic policy of these countries is therefore all that much greater.

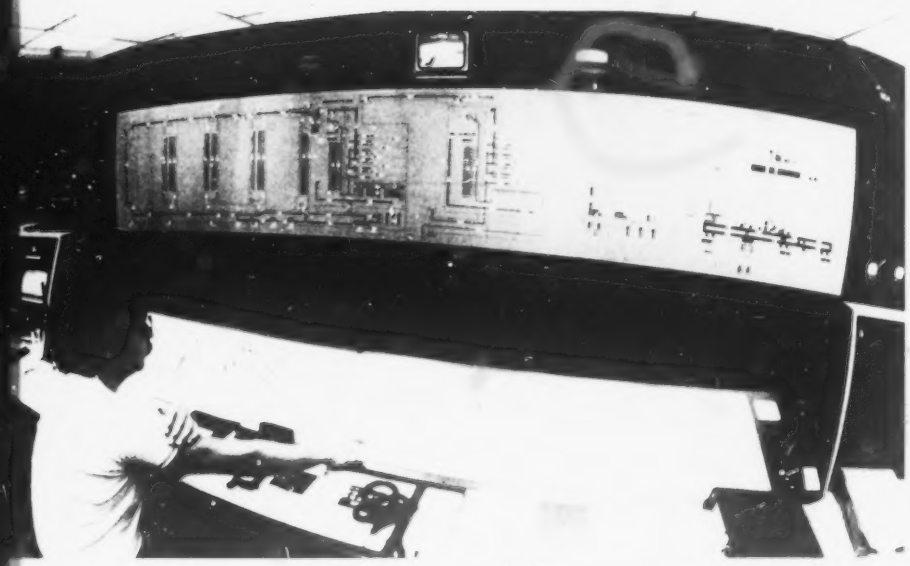
As a economy of moderately large size, the Federal Republic of Germany plays an intermediate role here. The German economy is perceptibly influenced by foreign developments. At the same time Germany affects the economy of its own trading partners. For our smaller trading partners we have a preponderance which has suggested the term "the European USA." This fully represents the close attention which these nations devote to the German economy.

Nearly 39 percent of the gross product created in the western industrialized nations in 1981 was created in the USA.

All nations, including the greatest economies, have suffered a loss of autonomy. The foreign trade quotient in the US economy doubled during the 1970s. This has grown considerably in some product sectors. Secretary Regan recently made this clear: "When both goods and services are combined, it is estimated that one-third of US corporate profits derive from international

activities. Vigorous expansion of our export sectors has become critical to employment in the United States. [Exports] accounted directly for 5 million jobs in 1982."

Permanent economic interdependence became especially demonstrated at the time when the nearly simultaneous financial crises in the CMEA bloc and the third world rocked the financial world. Close cooperation of debtors, creditors, multilateral financial institutions, and banks has succeeded in preventing a chain-reaction from forming in the financial system and in establishing a path toward stability for the affected countries. These rescue efforts have, however, only addressed the immediate danger and created a breathing space for the now necessary lengthy problem solving which must follow.



These shocks marked the monetary end of a period of rapid growth in international financial services, one of the most dynamic growth sectors of the last decade. Through their flexibility, these financial markets helped, on the one hand, to overcome the oil shocks without sustaining a serious interruption in economic growth or a return to dangerous protectionism. On the other hand, these rich financial sources led many countries down a path of over-consumption and investment of doubtful use, merely putting off the time of inevitable adjustment.

To an extent the payments difficulties in the problem countries are domestic in origin. A promiscuous monetary policy in many of these nations led to inflation; fiscal budgets ran out of control, scarce foreign reserves were devoted to consumption of prestige items. Distorted price and incentive systems stymied economic dynamism. The willingness to go into debt was all the greater as high inflation and low interest rates led to a situation where good money was thrown after bad.

The problem countries must themselves assume the largest share of the burden of stabilization.

Industrializing, and industrialized nations must take seriously a policy geared to fight money-illusion and inflation, previously the object of only lip service. The collision of restrictive monetary policy with deep-seated inflationary expectations has driven international interest rates to record levels.

The developing nations are thus in the crossfire. On the one hand, debt servicing is rising fast. Because of the broadened interest adjustment clauses in many loan arrangements, the higher rates increase the burden of debt. At the same time export proceeds have fallen, as a result of a recessive global economic situation but also through the protectionist measures of some industrialized countries. The unexpected stubbornness of global economic stagnation has cut across adjustment strategies which were themselves predicated on the basis of more rapid economic recovery.

The problem countries must themselves assume the largest share of the burden of stabilization: economic policy which brings results, leads to economic efficiency, produces the basis for new, long-term growth and which brings debt back into harmony with debt-service capacity.

The newly industrializing countries are by no means exclusively the football of economic developments. The differentiated fates of lands which started out on the same footing demonstrate the importance of a competent economic policy in the third world. Despite a scarce raw material basis and other disadvantages, several of these lands have developed into economic powers of their own, through policies which have encouraged trade. The efficiency of many developing countries and their capacity to become internationally competitive, have been felt by the industrialized nations in many of their traditional markets. The OECD Secretariat has correctly formulated that "there is not one developing world but many."

It is in the international interest to assist the developing countries in completing the process of adjustment, without overburdening their economies or their societies, and without impairing the progress in these countries toward democratic ways.

It is in the international interest to assist the developing countries in completing the process of adjustment.

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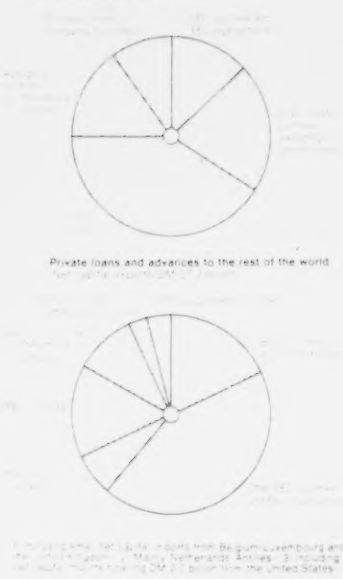
Long-term capital exports of the Federal Republic of Germany, 1979-82, by region


Portfolio investments in foreign securities
Net capital exports DM 28.2 billion
Private loans and advances to the rest of the world

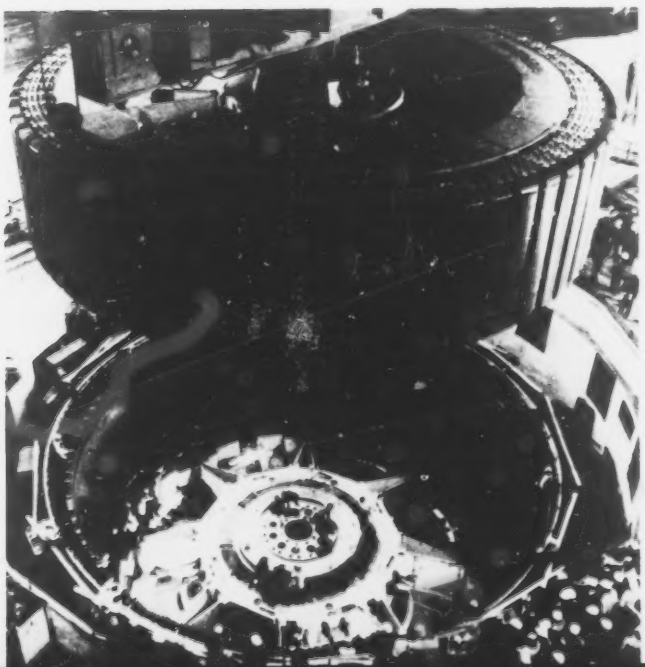
Turbulence in the third world will inevitably have an impact on the industrialized nations. Less demand in the developing countries means more unemployment in the industrialized nations. Less demand in the developing countries means more unemployment in the industrialized nations. The developing world creates a fifth of world gross product, not much less than the USA. New, massive, and sudden forced loan write-offs would weaken the capital basis of the western banks and thus hinder their capacity for providing credit domestically. The threat to national financing which would arise through stepped-up export guarantees would become acute.

New economic growth in the industrialized countries would considerably relax the international debt situation. This depends on widespread, non-inflationary economic recovery. This, in turn, necessitates demand credibility, discipline, and the coordination of monetary, fiscal, and incomes policy. Considerable need for course-correction lies in fiscal policy. The effects of fiscal sins of fat years are still felt in the industrialized countries. Then, increasing real income was always assumed, and small downturns could be easily accommodated by demand stimulation. The state could effortlessly accommodate the inflationary expectations of its citizens. In many nations, the structural discrepancy between income and expenditures led to unstoppable budget deficits. These deficits, which have not disappeared despite economic recovery, absorb an inordinate share of private savings, drive out private, job-creating investment, and disturb the expectations of markets in the height of future financial and budget trends.

The effects of fiscal sins of fat years are still felt in the industrialized countries.

The immense power of the US economy has lately rendered its rapidly evolved deficit an international problem. This deficit and the ruling expectations of higher levels of US debt contribute considerably to the result that the impressive success of the USA in stabilizing prices has not led to a simultaneous retreat in interest rates. The negative consequences of high US rates on economic growth and employment are carried over into America's trading partners in several ways.

Under the influence of American interest rates, dilemmas have arisen for the Federal Republic of Germany which pit domestic economic goals against external necessities. Through the strengthening of its economic base, the Federal Republic has created additional breathing room. But the Federal Republic cannot, despite strong overall economic performance, overcome the burden of high, foreign interest rates.



Under the influence of American interest rates, dilemmas have arisen for the Federal Republic of Germany which pit domestic economic goals against external necessities.

The fiscal policy of the Federal Republic is based on two primary goals:

- Driving back the excessive budget deficits through strict expenditure limitation.
- Improvement of the conditions for investment and economic growth through alleviating tax burden as well as shifting of public expenditure away from consumption

and toward the investment side.

We have taken concrete steps in this direction in the federal budgets for 1983 and 1984 as well as in the medium-term calculations for later years. The growth of expenditure will be limited in the second quarter of 1984 through the third quarter of the next years through cuts of about DM 6.5 billion via current measures and programs and by the strictest prudence in the acceptance of new responsibilities. New federal indebtedness will be cut from DM 40 billion in 1983 to about DM 37 billion in 1984. By 1987 new indebtedness will be limited to under DM 25 billion. The portion of private savings consumed by overall government spending (federal, state, community, and social security together) will fall from 40 percent in 1983 to about 30 percent in 1984. This will create, depending on interest rate developments, room for increased private credit demand for investment.

Investment is the medium through which economic transformation comes about. The loss of structural mobility and economic dynamism is in the end the cause of the worldwide growth and employment crisis in recent years. Forced deficit spending and excessive money creation, the instruments of global policy, are of no utility in this situation. After the inflationary experience of recent years, the markets in the western industrialized nations are all too skeptical, to accept these patent recipes on the part of governments.

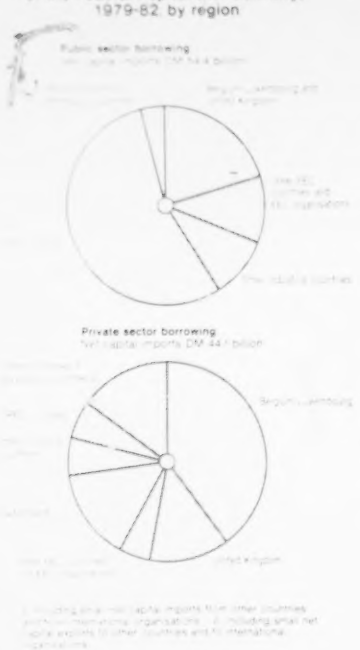
A yes to structural change means a yes to free multilateral world trade. The strengthening of free trade is the common task of all nations. It is the special responsibility of the trading bloc USA-European Community-Japan. Problems among these three trade poles can be solved only in the spirit of free trade. We can't afford an escalation of protectionism.

Without open trade frontiers, stabile international financial relations are unthinkable. Debtor countries can earn foreign exchange only through exports. Shutting off our markets to third world exports would negatively affect those less-developed countries which follow a free-market policy course. The industrialized nations have sold investment goods to these nations in order to build up third world export industries. The north cannot now reject the finished products of these industries.

A deciding role in the mastery of debt problems goes to the multilateral financial institutions. The Federal Republic actively supports these institutions. Germany belongs to the greatest capital suppliers in the IMF and the World Bank group.

A key role is played by the IMF. Through its economic stabilization programs which the IMF ties to its credits, this institution is in the situa-

Long-term capital imports
of the Federal Republic of Germany,
1979-82, by region



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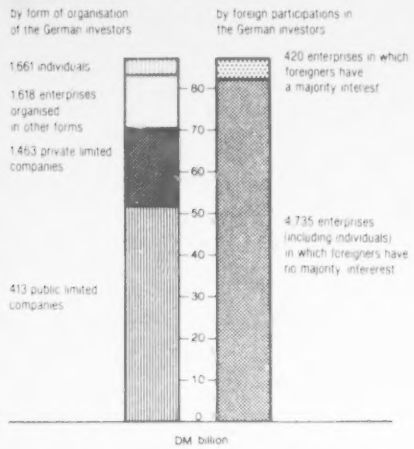
Structure of German enterprises' assets abroad, by form of organisation of the investors and foreign participations in them

End-1981



Critics of the IMF fail to understand that the mandate of the Fund is limited in scope to the preservation of global monetary stability.

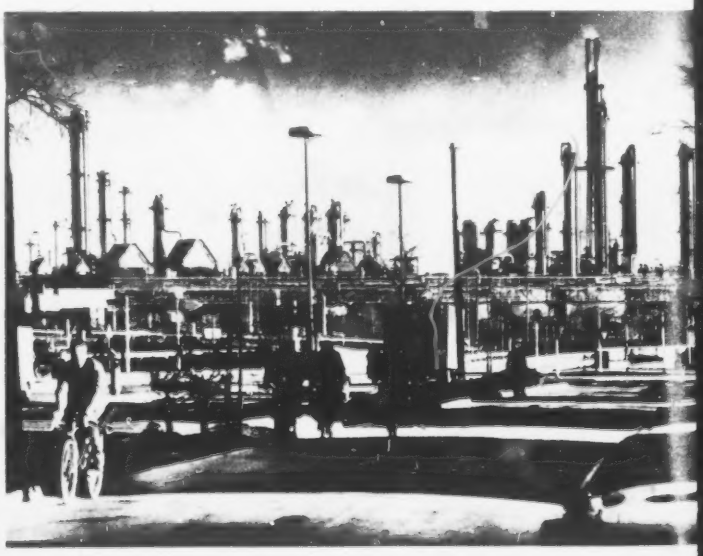
tion, unlike any other, of overcom[illegible] rather than merely financing, balance of pay[illegible]ts deficits. Through the confidence-building effects of this "conditionality", the rescue efforts of recent years were made possible. Now the stabilization policies have to be made to work. With new credits alone, the debt problem cannot be solved.

The IMF has fostered the basis of cooperation among its 146 member states operating on diverse economic principles. This is particularly the case since the oil shocks of the 1970s and during the financial shock at the beginning of the 1980s. Nonetheless, the IMF is the focus of criticism – especially from the third world – that it is insensitive to the special problems in developing countries, and that its requirements lead too often to political and social tensions.

In part, this criticism stems from the thankless task of the IMF of confronting regimes with the realities of their incorrect economic policies. Without the credits and the economic conditionality of the IMF, the healing of the problem countries would be even more painful. The credits, which the IMF itself guarantees and which catalyzes confidence of the markets in the stabilization programs from other sources, creates room for maneuver to achieve adjustment without undue political and social tribulations.

Above all, critics of the IMF fail to understand that the mandate of the Fund is limited in scope to the preservation of global monetary stability. The IMF is not, unlike its sister organization the World Bank, an organization for economic assistance. Rather it is a monetary institution. Its means are by nature short-term. Economic development aid can only be financed through long-term application of public and private savings.

The emphasis on the role of the private banking sector deserves full support. After years of



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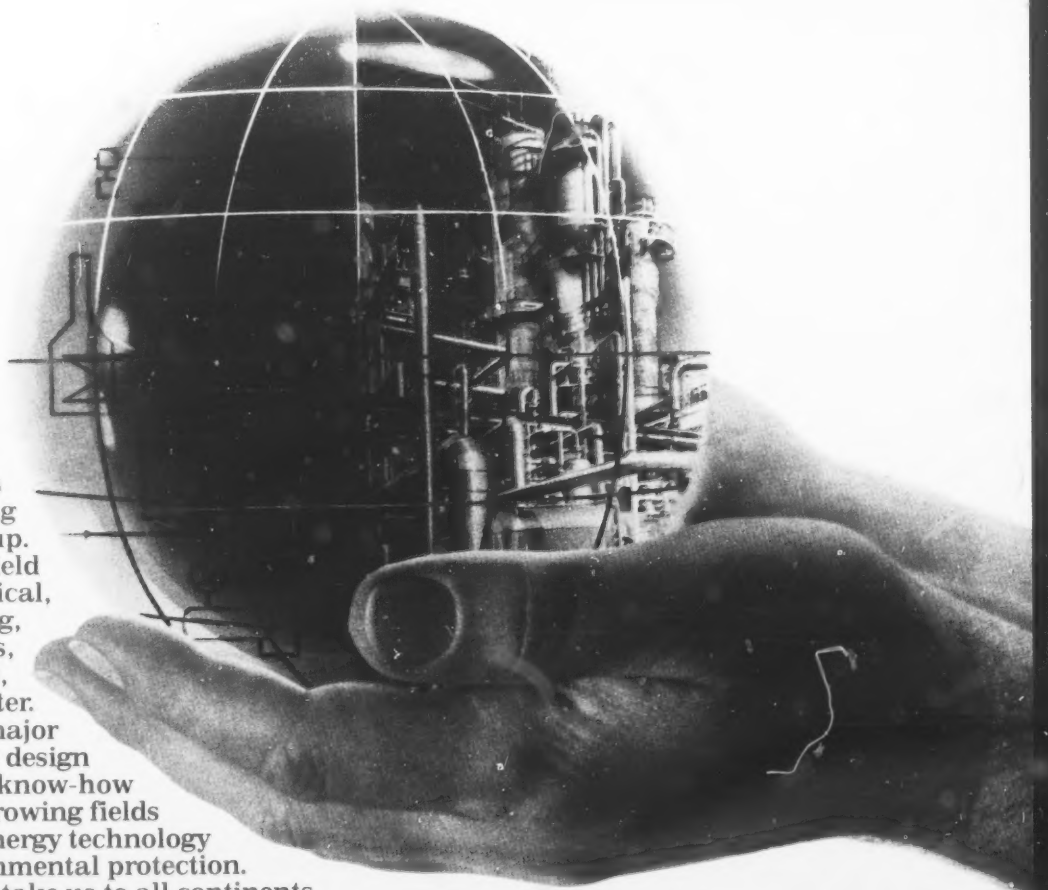

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ready credit disposition, the opposite extreme – sudden credit blockage – is for all parties concerned just as dangerous. The banks must stand ready to guarantee credits to those nations undergoing adjustment. The banks must even be prepared to raise credit limits, if only at a slower pace. Developing countries are essentially structural capital importers. A modest increase in their foreign debt is unobjectionable and, in light debt servicing capacity and productive investment, even desirable, in the interest of more rapid economic growth.

The anti-inflationary policies of the industrialized countries have begun to bear fruit. With the considerable retreat of inflation, a necessary, if not sufficient, condition for long-term economic growth has been created.

The narrowing of the inflation differential between the key currencies dollar, D-Mark, Pound Sterling, and Yen have improved the chances for a somewhat smoother exchange rate development. Long-lasting exchange rate stability depends indeed on the continuation of economic policy convergence on a wide front.

The price, income, and growth effects of lower petroleum prices are decidedly positive for the global economy. The savings and substitution reactions in oil consuming states after the second OPEC price shock demonstrated further the capabilities of market principles. Nonetheless, in the long term oil will prove scarce. The political risks of oil dependency are always latent; conservation and oil substitution remain a long-term priority.

Until a fundamental solution of the debt problem is achieved, international financial relations must remain delicate. A common interest in a capable financial system has necessitated cooperation between important private and public financial actors. By no means can individual debtors or firms count on automatic assistance to bail them out. According to the rules of the market economy, individual enterprises and banks must be prepared to fail. The disciplinary threat of possible bankruptcy cannot for individual sovereign debtors be destroyed by failsafe anchors.

Until a fundamental solution of the debt problem is achieved, international financial relations must remain delicate.

The end of the recessionary situation for growth and employment has been prophesied for three years now. The danger of a retreat is by no means overcome. Nevertheless, the basis for new, long-term economic growth is more secure than in a long time. ■

DEUTSCHE ZUSAMMENFASSUNG

Die Weltwirtschaftsszene praesentiert sich aus deutscher Sicht nicht viel anders als aus amerikanischem Blickwinkel, da die Interessen und wirtschaftlichen Anschauungen zu verwandt sind. Beide Laender sind die groessten Handelsnationen, sie stellen die groessten Waehrungsreserven der Welt und nach dem Dollar rangiert die D-Mark auf Platz zwei als internationale Reservewaehrung. Zudem sind beide Kapitalmaerkte weltoffen und die Banksysteme international integriert. Deshalb wollen beide Laender ein inflationsfreies Wirtschaftswachstum sowie eine Verbesserung der Beschaeftigungslage. Ansatzpunkte sind:

— den freien Welthandel gegen Protektionismus verteidigen,

— den inneren Wert der Waehrungen stabil halten,

— das internationale Finanzsystem wieder staerken.

Fast 39% des Sozialprodukts der westlichen Industrielaender entfielen 1981 auf die USA, jedoch machten die Ein- und Ausfuhren jeweils weniger als 10% des Inlandsprodukts aus.

Als Volkswirtschaft von mittlerer wirtschaftlicher Groesse nimmt die Bundesrepublik eine Zwischenstellung ein. Zum einen wird die deutsche Wirtschaft durch Auslandseinfluesse mitgepraegt, zum anderen uebt sie ihrerseits Einfluss auf manche Partnerlaender aus. Dem entspricht auch die Aufmerksamkeit, mit der unsere Wirtschaftspolitik beobachtet wird. Autonomieverluste haben letztlich jedoch alle Volkswirtschaften erfahren.

Nur durch die enge Zusammenarbeit von Glaeubigern, Schuldnern und multinationalen Finanzierungsinstitutionen konnte eine groessere Kettenreaktion im Finanzsystem verhindert werden, als fast gleichzeitig die groessten Schuldnerlaender der Dritten Welt und Osteuropas in Zahlungsschwierigkeiten kamen.

Die Zahlungsschwierigkeiten sind zum Teil durch laxe Geldpolitik, eine damit verbundene Inflation und ausser Kontrolle geratenen Staatsausgaben, weil knappe Devisen in Prestigeobjekte geleitet wurden, hausgemacht. Die Bereitschaft, sich zu verschulden, war umso groesser, als hohe Inflation und niedrige Zinsen die Aussicht boten, gutes Geld mit schlechtem zurueckzuzahlen. Die Anpassungsstrategien, auf schnelle wirtschaftliche Erholung aufgebaut, wurden jedoch durchkreuzt. Der Schuldendienst nahm rapide zu, wegen der Zinsanpassungsklausel verteuerten die hoeheren Zinsen schnell die Altschulden.

Den wichtigsten Beitrag muessen die Problemlaender selbst leisten: durch konsequente Politik die wirtschaftliche Effizienz erhoehen, die die Grundlage fuer neues, dauerhaftes Wachstum schafft und ihre Schulden wieder in Einklang mit der Verschuldungsfaehigkeit bringt.

Es liegt im internationalen Interesse, den Entwicklungslaendern zu helfen, die Anpassung geordnet zu vollziehen: ohne ihre wirtschaftliche und soziale Belastbarkeit zu ueberfordern und ohne die oft nicht gefestigten Fortschritte zu demokratischen Verhaeltnissen zu gefaehrden.

Jetzt kommt es darauf an, die in Gang gekommene Wiederbelebung in breit angelegtes, nicht inflationaeres Wachstum ueberzuleiten. Das stellt hohe Anforderungen an Glaubwuerdigkeit, Disziplin und Zusammenspiel von Geld-, Fiskal- und Einkommenspolitik. Erheblicher Korrekturbedarf besteht in der Fiskalpolitik.

Die Ausstrahlungskraft der US-Wirtschaft hat das stark gewachsene Haushaltsdefizit zu einem internationalen Problem gemacht. Die Erwartung eines weiteren Anstiegs ver-

hindert wohl den Rueckgang der Zinsen, obwohl den USA ein eindrucksvoller Erfolg bei der Preisstabilisierung gelungen ist.

Ganz kann sich auch die Bundesrepublik diesem Einfluss nicht entziehen, obwohl grundlegende wirtschaftliche Bedingungen verstaerkt und damit zusaetzlicher Handlungsspielraum geschaffen wurde.

Die Finanzpolitik der Bundesregierung verfolgt zwei Ziele:

— Abbau des Staatsdefizits durch strikte Ausgabenbegrenzung,

— bessere Voraussetzungen fuer Investitionen durch steuerliche Entlastungen und Umstrukturierung der oeffentlichen Ausgaben.

Konkrete Schritte in diese Richtung sind in den Bundeshaushalten 1983 und 1984 enthalten, wo das Wachstum der Bundesausgaben auf rd. 2% im Jahre 1983 und 3% in den Folgejahren begrenzt ist. Die Neuverschuldung wird von rd. 40 Mrd. DM im Jahre 1983 auf rd. 37 Mrd. DM zurueckgehen. Bis 1987 soll sie auf unter 25 Mrd. DM gesenkt werden. Der Anteil des Finanzierungsdefizits des Gesamtstaates wird in der Bundesrepublik von rd. 40% im Jahre 1983 auf rd. 30% im Jahre 1984 zurueckgehen, was zinsguenstigen Raum fuer eine wachsende private Kreditnachfrage fuer Investitionen schafft.

Investitionen sind das Medium, durch das sich der notwendige wirtschaftliche Strukturwandel vollzieht.

Ein Ja zum Strukturwandel bedeutet ein Ja zum freien, multilateralen Welthandel. Probleme zwischen den drei Handelspolen USA, Europaeische Gemeinschaft und Japan lassen sich nur im Geist einer weltoffenen Handelspolitik loesen.

Stabile internationale Finanzbeziehungen sind ohne offene Handelsgrenzen nicht denkbar, da nur durch Ausfuhren die Schuldnerlaender die Devisen verdienen koennen. Eine Abschottung der Industrielaender gegenueber Ausfuhren der dritten Welt traefe gerade die Entwicklungslaender, die einen marktwirtschaftlichen, weltoffenen Kurs verfolgen.

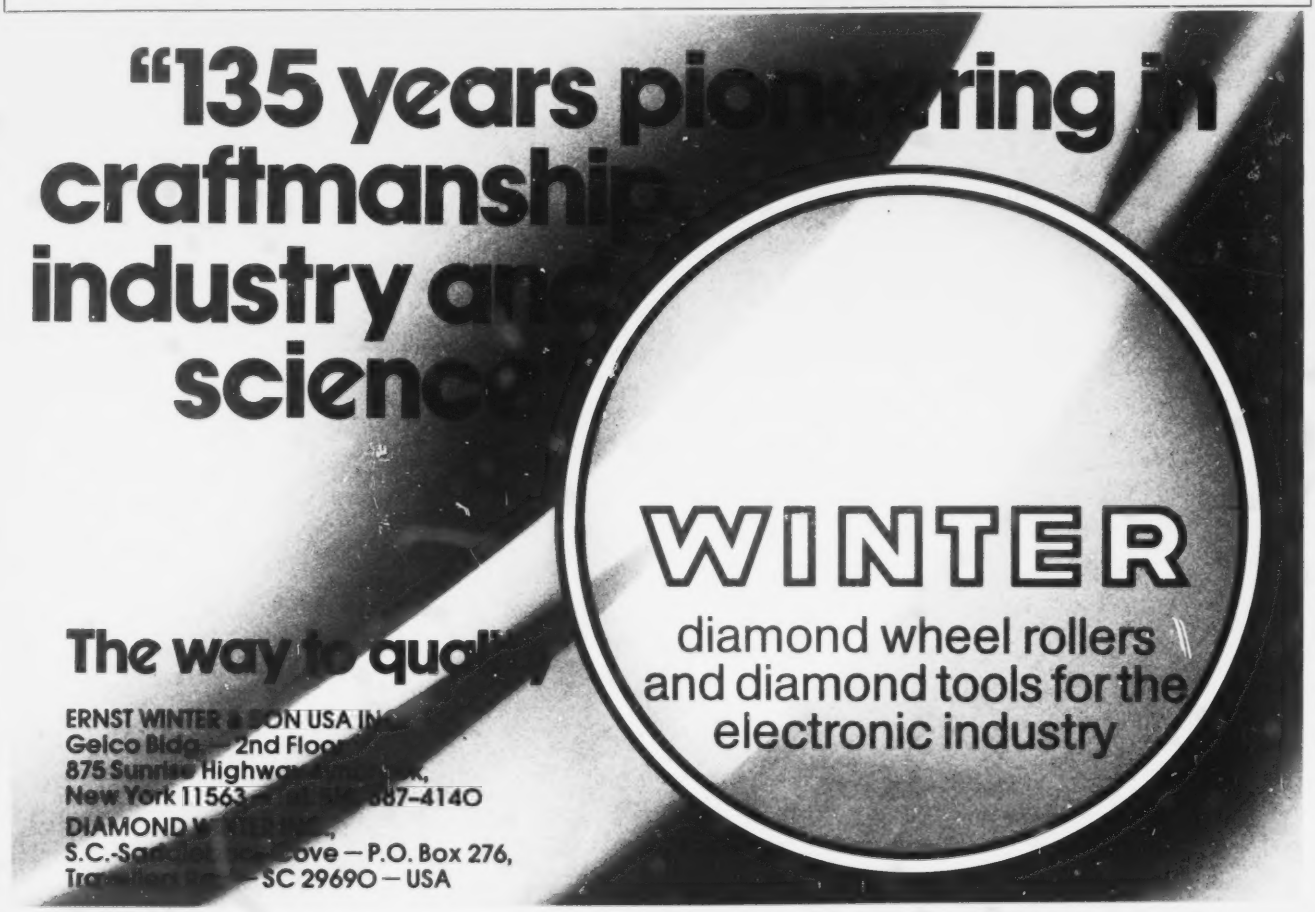
Die Bundesrepublik unterstuetzt die multilateralen Finanzierungsinstitutionen aktiv; sie gehoert zu den groessten Kapitalgebern des IWF und der Weltbankgruppe.

Eine Schluesselrolle liegt beim IWF, der Zahlungsdefizite nicht nur finanziert, sondern auch bei der Ueberwindung der Probleme hilft.

Zu einem Teil erklaert sich die Kritik aus der unangenehmen Aufgabe des IWF, Regierungen mit den harten Tatsachen einer verfahrenen Wirtschaftspolitik zu konfrontieren. Auch beruecksichtigen die Kritiker nicht die Grenzen, die dem IWF durch sein waehrungspolitisches Mandat gesetzt sind. Der IWF ist keine Entwicklungshilfe-, sondern Waehrungsinstitution und seine Mittel sind kurzfristiger Natur.

Unterstuetzung verdient auch die Stuetzungsaktionen des IWF, dass auch die Geschaeftsbanken ihren Part uebernehmen und nicht ploetzlich Kredite zurueecknehmen. Die Banken muessen bereit bleiben, ihr Kreditengagement im verringerten Tempo beizubehalten.

Die Spar- und Substitutionsreaktion der Oelverbraucher auf den zweiten Oelschock hat wieder die unuebertroffene Leistungsfaehigkeit marktwirtschaftlicher Prinzipien gezeigt. Jedoch bleibt Energiesparen und Oelsubstitution eine Daueraufgabe. Auch weiterhin sollte auf das internationale Finanzsystem Verlass sein. Jedoch darf kein Schuldner mit automatischen Hilfsaktionen rechnen, da nach den Spielregeln der Marktwirtschaft einzelne Unternehmen und Banken sterblich bleiben. Das Ende des weltweiten Wachstums- und Beschaeftigungseinbruchs wurde in den letzten drei Jahren schon oft vorhergesagt. Die Gefahr neuer Rueckschlaege ist auch jetzt keineswegs gebannt. Dennoch ist die Grundlage fuer ein neues, dauerhaftes Wachstum der Weltwirtschaft tragfaehiger als seit langem.



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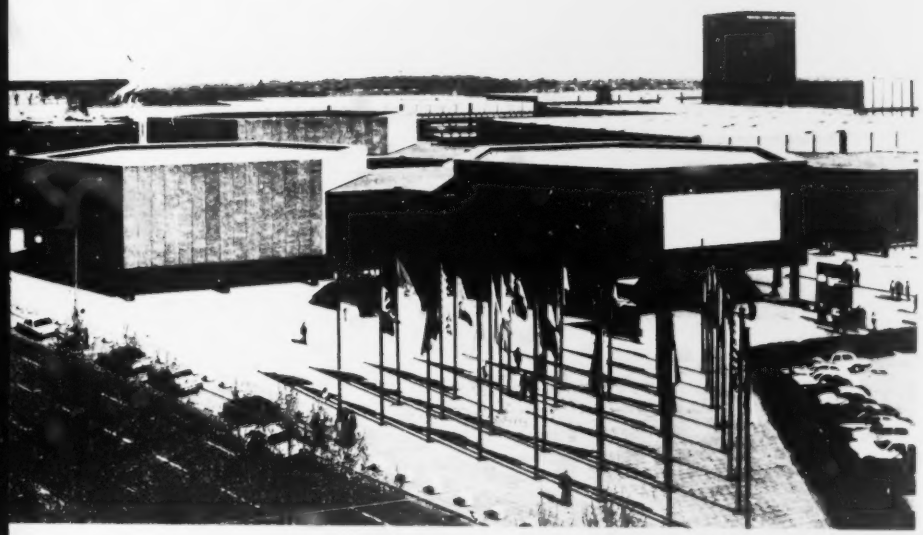


by Donald Regan
United States Secretary
of the Treasury

During the middle of last year, the serious problems confronting the international financial system became front-page news – and correctly so, as the management of these problems is critical to the economic strength of the American economy as well as to global economic welfare.

These serious financial difficulties developed because the debts of many key countries, including such major U.S. trading partners as Argentina, Brazil and Mexico became too large for them to manage under existing world economic conditions. In response, lenders retrenched sharply and borrowers have found it difficult to meet upcoming interest and principal payments and to pay for essential imports.

As a result, the international financial and economic system is experiencing strains unprecedented in the postwar era, which threaten to derail the world economic recovery.

The problem did not arise overnight. It stems from the commodity boom of the early 1970's and the twin oil shocks that followed. For industrialized nations and less developed exporting nations (LDC s), this led to the surge of imported inflation, large transfers of income to oil exporting countries, and to the deterioration of trade balances.

A prudent reaction would have been economic adjustment. Instead, many countries, both developed and developing, pursued inflationary domestic policies and financed their growing external deficits through foreign borrowing. LDC s in particular racked up huge debts. In fact, by mid-1982, the total foreign debt of non-OPEC developing countries was over $500 billion – more than five times the level of 1973.

A deflationary world economy has now made it more difficult for LDCs to earn sufficient export revenues to service their debts.

There has been a belated movement toward anti-inflation policies in most major countries. However, a deflationary world economy has now made it more difficult for LDC s to earn sufficient export revenues to service their debts and lenders have become more reluctant to extend

Debtor countries must get their economies back on course by reducing their trade deficits.

additional credit. This has forced the debt ridden developing countries to do everything possible to improve their account deficits, which has been difficult.

The only fast ways for these countries to achieve this is either to sharply depress their economies or restrict imports directly. Both of these avenues are economically, politically, and socially disruptive for the LDC's. They are also disruptive to industrial nations like the United States which are heavy exporters to the LDC's. Thus, there is a limit to the speed with which healthy adjustment can come about.

The Reagan Administration has been working on a broad-based strategy involving LDC governments, governments of other industrialized countries, commercial banks, and the International Monetary Fund (IMF). The strategy which we and our industrial allies have agreed to pursue has five elements.

First, and in the long run most important, the debtor countries must adjust to the different economic climate. They must get their economies back on course by reducing their trade deficits. This can be achieved by making sure that imports do not grow faster than the country's ability to pay for them.

In order to set their economies back on a balanced and sustainable growth path, the adjustment will have to involve expansion of productive investment and exports. It must entail addressing problems such as: rigid exchange rates; subsidies and protectionism; distorted prices; inefficient state enterprisees; uncontrolled government expenditures and large fiscal deficits; inflationary money growth, and high rates of interest.

The second element of our strategy is the continued availability of official balance-of-payments financing to help troubled borrowers through their adjustment period.

The only institution which can effectively fill this role is the International Monetary Fund (IMF). The IMF provides temporary balance of payments financing, and also ensures that the use of its funds is tied tightly to implementation of needed policy measures by borrowers. It is this "IMF conditionality" that makes the role of the organization so important.

Although the IMF is the central source of official financing, emergency situations can arise in which funds are needed immediately. Because IMF negotiations usually take some time, the third element of our strategy is the willingness of governments and central banks in lending countries to provide immediate and substantial short-term financing for debt emergencies.

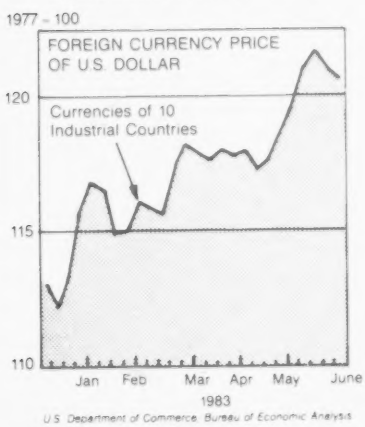
We are undertaking this on a case-by-case basis through ad hoc arrangements among finance ministries and central banks. This is necessary. But it must be emphasized that it is designed to last for only a short period. Other resources will have to come into play through a multi-year adjustment process. Brazil and Mexico, for example, were temporarily helped by the United States and other industrialized countries until they could agree with the IMF on effective adjustment programs.

The fourth essential element in resolving the debt problem is continued commercial bank lending to countries that are pursuing sound adjustment programs. In general, banks recognize this and are making the finances available where it is necessary and appropriate.

The final part of our strategy is to restore sustainable economic growth and to strengthen the free trading system.

The world economy is poised for sustained recovery. Inflation rates in most major countries have receded. Nominal interest rates have fallen sharply. Inventory rundowns are almost com-

Index of Foreign Currency Price of the U.S. Dollar and Short-Term Interest Rates



U.S. Department of Commerce, Bureau of Economic Analysis

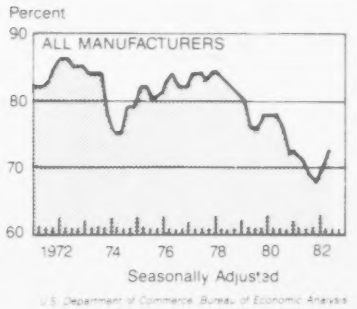
plete. Trade volume between industrialized nations has begun to pick up. Simply, the base for establishing credible world economic recovery is being laid.

Of particular importance, the U.S. is moving into a very powerful economic recovery. Inflation and interest rates have been held down. Investment is rapidly increasing. Industrial production and growth is picking up. The gross national product is expanding. And these improvements on the domestic front are having a very strong influence on the world economy.

Governments must not give in to political pressures to stimulate their economies too quickly through excessive monetary or fiscal expansion.

We have taken the preliminary steps to avoid this. While there will inevitably be some further problems for individual countries, we believe

Manufacturers' Capacity Utilization Rates by Major Industry Groups



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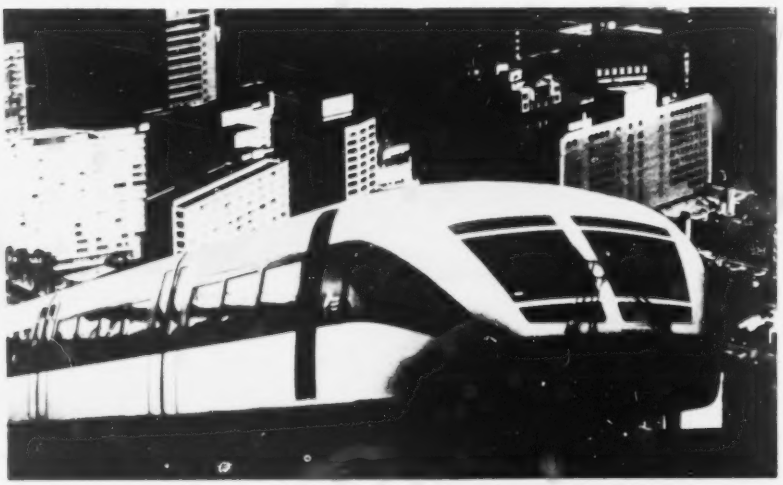
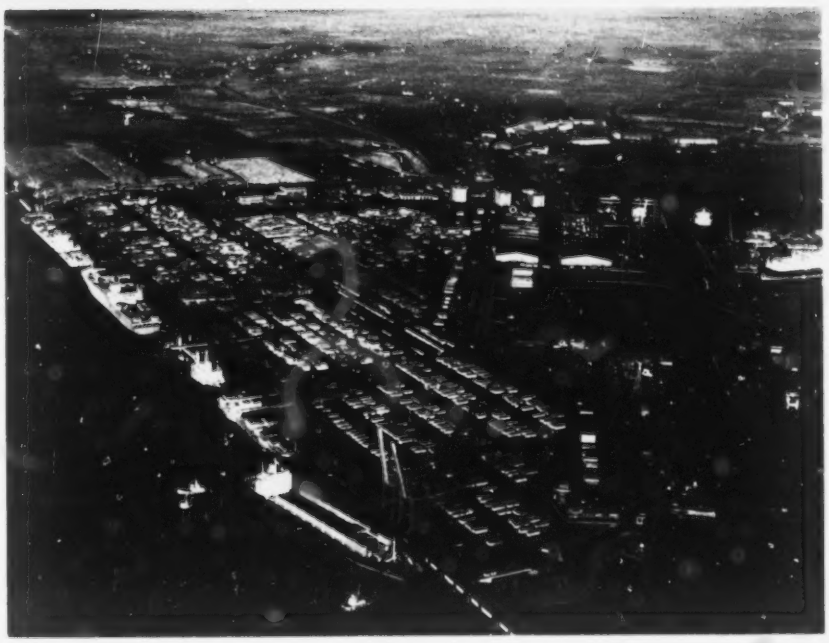


However, despite significant economic improvements, we and others must exercise caution at this point. Governments must not give into political pressures to stimulate their economies too quickly through excessive monetary or fiscal expansion.

In addition, rising protectionism, both in the United States and elsewhere, must be limited. Of key importance to the debt problem, debtor countries must have markets in which they can expand their exports in order to earn money to service their debts. If all markets are closed to them, there can be no hope of an orderly long-term resolution of the debt problem.

More generally, protectionism cuts off the channels of expansion and could hamper economic recovery. As the world's largest trading nation, the U.S. holds a major responsibility to lead the world away from possible trade war. We can do this by renouncing protectionism and preserving free trade policies, thereby setting an example for all the world.

A healthy world financial and trading system is crucial to economic recovery. A further abrupt and large-scale contraction of trade would do major damage to exporting industrialized nations and many LDC's. The present situation is manageable. But a simultaneous drop of world trade and loan losses could pose a fundamental threat to the American economy and the international economic system.



the situation is being managed effectively through our five point plan which in summary includes: an effective adjustment policy for debtor nations; transitional IMF funding; increased commercial bank financing; short-term financial support until the IMF can take

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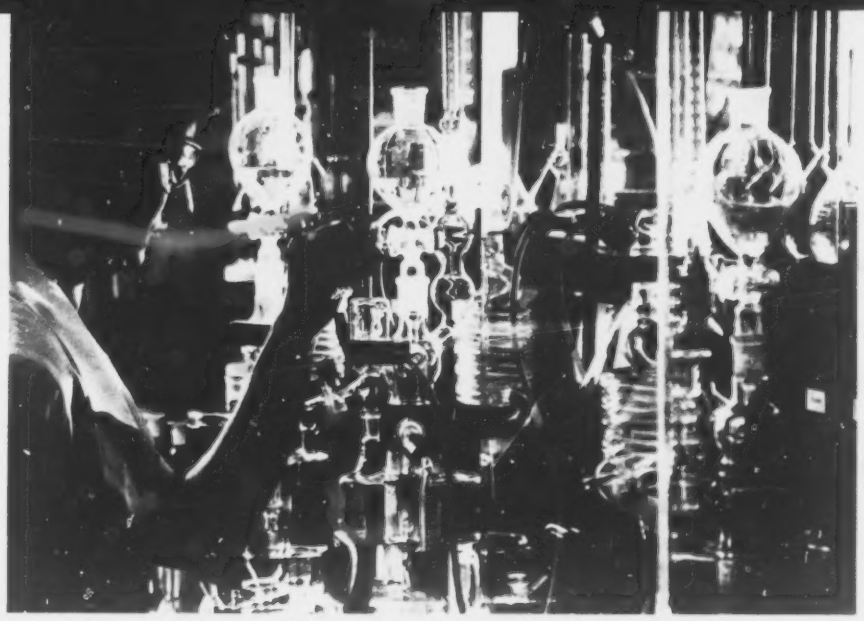

A simultaneous drop of world trade and loan losses could pose a fundamental threat to the American economy and the international economic system.

over; and sustained economic growth to counter the risks of protectionism.

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DEUTSCHE ZUSAMMENFASSUNG

Mitte letzten Jahres erreichten die internationalen Finanzprobleme ein beaengstigendes Ausmass durch eine zu hohe Verschuldung einiger Schluessellaender wie Brasilien und Mexiko. Daraus resultierte eine drastische Kuerzung der Geldmittel durch die Kreditgeber. Eine beispiellose Anstrattung des internationalen Finanz- und Waehrungssystems loeste die weltweite Rezession aus.

Diese Probleme sind das Resultat des Warenbooms der fruehen 70er Jahre und der direkt darauf folgenden Oelschocks, die zu steigender Inflation fuehrten, zu grossen Geldtransaktionen an die oelexportierenden Laender und zu einem Ungleichgewicht der Handelsbilanzen.

Heute verschlechtert die deflationsorientierte Weltwirtschaft die Moeglichkeiten der Dritten Welt, bemerkenswerte Exportertraege fuer die Finanzierung der Verbindlichkeiten zu erwirtschaften. Der einzig schnelle Weg zur Verbesserung der finanziellen Lage dieser Laender ist eine drastische Kuerzung der Volkswirtschaft oder eine Verminderung der Importe. Beides bedeutet fuer die Entwicklungslaender einen politischen, wirtschaftlichen und sozialen Rueckschlag und hat Auswirkungen auf jene Industrienationen, die viel in diese Laender exportiere.

Eine von der Reagan Administration ausgearbeitete Strategie, in die Entwicklungslaender, andere Industrienationen, kommerzielle Banken und der IWF (internationaler Waehrungsfond) mit einbezogen sind, basiert auf folgenden fuenf Punkten:

1. Die Schuldnerlaender muessen sich an die veraenderte weltwirtschaftliche Situation anpassen und ihre Handelsdefizite in den Griff bekommen. Die Zunahme der Importe darf nicht schneller sein, als die Moeglichkeit der Bezahlung. Um die Wirtschaft in ein ausgeglichenes Wachstum zu fuehren, muss auch die Expansion von produktiven Investitionen und Exporten einbezogen werden. Auch die Loesung einiger Probleme wie z.B. die festen Wechselkurse, Protektionismus, verzerrte Preise, unwirtschaftliche staatliche Aktivitaeten und grosse Steuerdefizite sind wichtig.

2. Die Moeglichkeit von voruebergehenden finanziellen Unterstuetzungen waehrend der Anpassungsphase. Der IWF ist die einzige Institution, die diese Rolle uebernehmen kann. Er stellt begrenzte Ausgleichszahlungen zur Verfuegung und ueberwacht die politische Austuehrung der Massnahmen. Gerade durch die Konditionen gewinnt der IWF an Bedeutung.

3. Der IWF benoetigt gewoehnlich einige Zeit fuer Verhandlungen. Regierungen und Zentralbanken muessen daher bereit sein, den Laendern sofortige und reichliche finanzielle Unterstuetzung bei kurzfristigen Zahlungsschwierigkeiten zu geben.

Es muss jedoch betont werden, dass diese Gelder nur kurzfristige Hilfen sein koennen, bis man sich mit dem IWF ueber effektive und langfristige Programme geeinigt hat.

4. Kommerzielle Banken muessen auch weiterhin Darlehen an jene Laender gewaehren, die ein robustes Anpassungsprogramm verfolgen. Dieses Problem wurde von den Banken generell erkannt.

5. Notwendig ist ein ertraegliches Wirtschaftswachstum und eine Staerkung der freien Maerkte. Die Basis fuer eine dauerhafte weltwirtschaftliche Erholung ist geschaffen, da die Inflationsraten gesunken, die nominellen Sollzinsen gefallen sind und der Abbau der Warenbestaende vollzogen ist. Das starke Wirtschaftswachstum der USA hat dabei starken Einfluss auf die Weltwirtschaft.

Von besonderer Bedeutung ist, dass dem steigenden Protektionismus Einhalt geboten wird. Die Schuldnerlaender benoetigen freie Maerkte fuer ihre Exporte, um das Geld fuer die Verbindlichkeiten zu verdienen. Falls alle Maerkte geschlossen sind, ist eine ordentliche, langfristige Loesung der Finanzprobleme unmoeglich.

Ein Einbruch des wirtschaftlichen Aufschwungs durch Protektionismus kann durch die Aufrechterhaltung des freien Handels vermieden werden. Weitere uebereilte und langfristige Handelsvertraege wuerden grossen Schaden anrichten.

Obwohl unvermeidlich noch weitere Probleme der verschiedenen Laender hinzukommen, glauben wir, dass die Situation mit den fuenf Punkten geloest werden kann. Zusammenfassend beinhalten sie folgendes: eine wirkungsvolle Kontenregulierung der Schuldnerlaender; eine voruebergehende IWF-Konsolidierung; zunehmende Finanzierungen der kommerziellen Banken; kurzfristige Unterstuetzungen bis zur IWF-Uebernahme; und ein dauerhaftes Wirtschaftswachstum zur Daempfung der Protektionsrisiken.

Die Regierungen und Wirtschaftsfuehrer der freien Welt muessen zusammenarbeiten, um den internationalen Handel und das Finanz-und Waehrungssystem zu staerken. Es ist eine Verantwortung, die uns alle angeht, der Lohn ist der wirtschaftliche Wohlstand der freien Welt.

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Diehl: Its Beginning In Semi-Finished Products

From the first wire used in prehistoric times to functional components of the latest technology, semi-finished products have been utilized throughout history. Products manufactured by Diehl's two brass mills, located in Roethenbach/Bavaria and Hemer-Sundwig/Westphalia, represent this development. Products resulting from decades of internal research work complement the range of standard items available today. All grades of semi-finished copper alloys – from the rod to lead frames for highly sophisticated integrated circuits – created the world-wide renown of the Diehl group. Modern semi-finished products are characterized by remarkable dimensional precision and reproducibility of specified properties.

The semi-finished products of today are the continuation of what Heinrich Diehl began in Nuremberg in 1902, when he started his art foundry in that town, which was already regarded as the largest industrial center of Northern Bavaria. Nowadays, brass mill products are the result of large-scale metallurgical and mechanical technology.

Moreover, semi-finished products from copper alloys, especially plumbing tubes, form the basis of business relations between Diehl and fabricating industries in the United States of America.

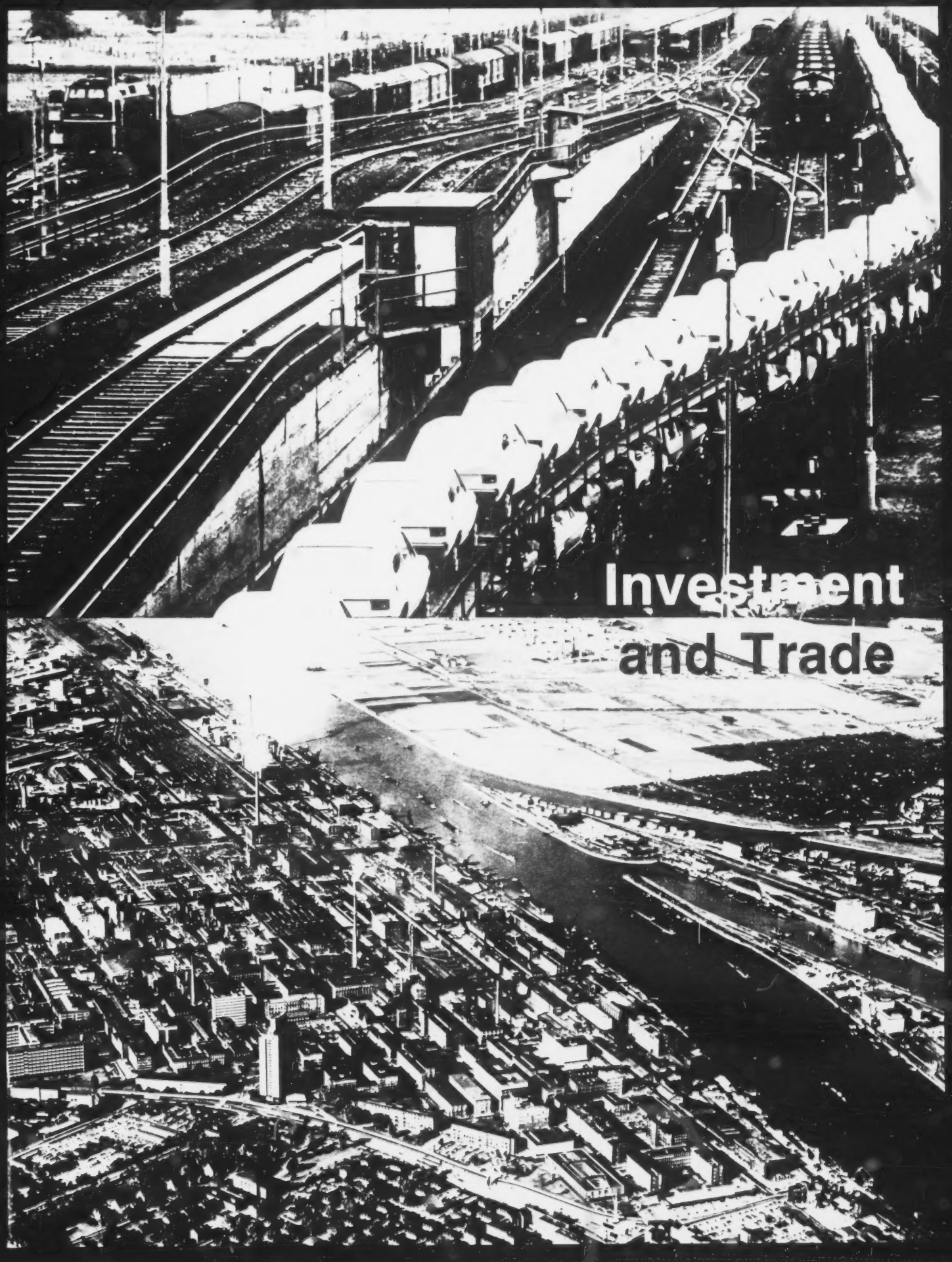
Taking an important share in the introduction of hollow rods, Diehl has pioneered this comparatively new product in the U.S.A. as well. For turned parts with full-length bore, very often hollow rods or thin-walled tubes can be a cost-reducing solution when compared with solid rod. The manufacturers of sanitary fittings and heating equipment, of furniture and lighting fixtures as well as of other types of turned parts, benefit greatly from the know-how Diehl has acquired through tradition and experience in the field of semi-finished products.

A sizable share of the semi-finished products made by Diehl is further processed to obtain high-grade hot-forged parts for the American automobile industry, e.g. wear-resistant synchronizer rings. In the field of bronze strips and wire, Diehl has also entered the U.S. electrical engineering and electronics market.

Head Office: Diehl GmbH & Co.
Stephanstrasse 49 · D-8500 Nürnberg 30

DIEHL

Related companies in the U.S.A. see Company Profiles



Investment and Trade

Recent Trends in U.S. Investment in Germany

by Dr. Joe R. Defregger
Assistant Vice President
Citibank AG, Frankfurt, and

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Partner, Peat, Marwick,
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The Present Position and Development of U.S. Investment in Germany.

Germany has since 1980 become significantly more attractive for American direct investment; despite the current global stagnation or even decline of U.S. foreign investment generally.

According to the statistics published by Germany's Ministry for Economic Affairs, foreign investors in 1981 and 1982 invested over DM 4 billion each year (approx. US $1.7 billion) in Germany. The bookvalue of those investments in German subsidiaries, participations and long-term loans amounts to a total of DM 61.8 billion in the period 1961 to 1981 (approx. US $25 billion). European investors from Switzerland, the Netherlands, Great Britain, and also increasingly from the capital enriched OPEC countries and Japan, had in previous years been quicker than the U.S. in establishing themselves in the German market. However, since 1980 the trend has again been towards increasing American activity.

Since 1980 the trend has again been towards increasing American activity.

Following a period of declining growth in 1976 to 1979, U.S. investment in Germany increased in 1980-1982 at the respective annual rates of DM 172m, DM 406m, and DM 1,221m, to a total of DM 21.9 billion (approx. US $9 billion) since 1961. U.S. firms are still by far Germany's largest foreign investor, with a proportion of 1/3rd (1976 = 39%) of total foreign capital and 30% of new investments in 1982. However, the growth rates of the new U.S. investments in Germany have, despite the definite increase in the early 1980's, nevertheless not reached the same strength as was witnessed in the 60's and early 1970's when the investment flows increased at an annual rate of 20%. In the period 1980-1982 the increase was only 9%, representing an overall 23% since 1976.

Despite the slowing in growth for reasons which will be fully dealt with below, Germany continues to be an attractive proposition for American investment.

The Slowing of U.S. Investment Flows

There are three main reasons for the continuing slowed growth of American investments in Germany:

1) Many U.S. firms have already attained leading market and investment positions within the market;
2) the growth and profit potential of German companies is below the U.S. average;
3) the general worldwide investment climate has worsened, with U.S. companies in par-

ticular becoming increasingly conservative in their investment decisions.

• American capital stock in Germany has increased steadily since the end of the Second World War. Having now reached such a volume, further expansion will be limited by natural and legal monopoly constraints. Four U.S. corporations already rank among Germany's top 35 industrials and particularly strong market positions are held by U.S. firms in the oil, electronic data processing, electronics and automobile industries. This broadly speaking represents the traditional structure of German U.S. investments. Using 1981 figures, manufacturing industry represented 64% and the petrochemical industry, 20% of the U.S. investment with trade (7%), banking (4%), insurance, financial institutions and real estate companies (3%) featuring but not playing a major role.

• Real investment returns in Germany between 1979 and 1981 decreased by 23%. This reduction combined with continued low profit expectations, having contributed to the further holding back of U.S. investment from Germany. In addition, lower German profits have the knock-on effect of reducing any re-investment of gains in Germany.

• 'Forbes' named the investment year 1982, "the year that the tide went out," as for the first time in the post-war era, the net worth of U.S. companies overseas was reduced by $3 billion from $228 to $225 billion. This having been despite the strength of the Dollar which should have encouraged relatively low-cost foreign investment. This reduction in the American overseas investment flow is only in part explained by the temporary economic decline, resulting from the general weakness in the world economy, high U.S. interest rates, and the reduced liquidity of American corporations. Beside increasing worldwide political and economic insecurity, there is a noticeable new conservative attitude taken by American investors not only towards existing, but especially to any additional foreign expansion moves. The standards required of any new international investment have become stricter and aso more selective with regard to favorite locations. Existing investments are increasingly being more critically assessed as to their growth, performance and future profit potential. Existing investments are being re-examined in the context of their fit to their respective parents in the light of newly developed strategic plans. This trend towards a stronger more strategic orientation of U.S. corporations has already led to a number of re-organizations and divestitures of U.S. subsidiaries both in Germany and elsewhere, that should not be regarded as a general disinvestment trend per se. At the same time the U.S. domestic market is regaining importance, a possible contributory factor being the increasing presence of foreign corporations whose investments into the U.S. had a value of U.S. $100 billion at the end of 1981.

Germany's Continuing Popularity as a Location for U.S. Investment.

Western Europe because of its relative stability will remain of great importance to U.S. investors despite, or even because of international insecurities as a whole. In 1981, 44% ($101 billion) of all American corporation assets overseas applied to Western Europe; Germany's proportion being 7% ($16 billion) representing its traditional second place in the league table of European investment locations after Great Britain but well ahead of Switzerland, France, The Netherlands, Belgium and Italy.

The following arguments are in favor of American investment in Germany:

1. minimal country risk;
2. the limited European alternatives;
3. stable political and social conditions;
4. the size of the German market and its favorable economic climate;
5. central access to the whole EEC market; and a positive step towards the growing trend of trade protectionism;
6. particularly good market potential in certain sectors;
7. the increased purchasing strength of the Dollar against the Deutschmark.

• The country's economic risk in Germany is minimal, the only consideration being her geographic proximity to communist Eastern Europe. Germany's credit rating according to the 'Institutional Investor,' remains unchanged at 4th position immediately behind the USA, Switzerland and Japan. The Business Environment Risk Information index also attributes the same ranking to Germany; the BERI index com-

Western Europe will remain of great importance to U.S. investors despite, or even because of, international insecurities as a whole.

prises 15 criteria including political stability, bureaucracy, economic growth, inflation, balance of payments, labour costs, foreign exchange considerations and the general attitude toward foreign investors.

• The number of European alternatives to Germany is limited, as there are few countries that compare in terms of market size and the quality of both the political and social infrastructure. Switzerland's market potential is relatively small as is that of the Scandinavian countries; France and Italy for reasons of their internal politics are currently relatively unattractive to foreign investors.

• Germany's new conservative/liberal government strongly endorses the philosophy of the free market economy and limited state intervention. Productive forces within the economy are to be strengthened by means of tax reductions and investment incentives. Germany's worker co-determination law is often misunderstood by foreign parties, but despite its many controversial aspects, it is one of the reasons for Germany's excellent labour relations record. The law applies to companies employing more than 2000 people and is partly responsible for the co-operation and managerial awareness of the labor unions, which has contributed to the relatively painless structural changes that have been taking place in Germany's economy.

Germany's co-determination law is one of the reasons for Germany's excellent labor relations record.

• Germany is an economic giant within Europe. The GNP is the world's fourth largest, and Germany belongs to the leading trading nations. The combined purchasing power of its 62 million inhabitants, at a per capita rate, is even greater than that of the average American. The underlying economic trends in 1983 are positive and according to a long-term study conducted by London's Economist Intelligence Unit, will remain so and strengthen in the 1990's. The trade balance is in surplus and both inflation levels and interest rates have been lower than in the USA for sometime. Germany's international competitive strength has even increased taking into account the relatively high labor costs. Calculations by the English Economist newspaper show an increase in relative unit labour costs in the period 1975-1982, of 32% in Germany, as opposed to an increase of 68% in the USA, and of an increase of 131% in Great Britain. Both productivity and the general quality of products of Germany company products remain unchallenged.

• Germany's central European location enables easy access to the complete European Economic Community market, with its total population of approximately 270 million. A further 80 million consumers live close by in Spain and Portugal, as well as in countries of the European Free Trade Association such as: Switzerland, Austria, and Scandinavia. There are cogent reasons for direct investment into target markets, especially in the light of growing protectionist policies in the world market, which now extend to the USA, Japan and Europe. Such measures enable companies to minimize the effects of trade and customs barriers being established. Particularly the Japanese are protecting their market positions in the consumer electronics and automobile industries in this way.

• As with the other European economies, Germany is restructuring the traditional industry areas such as: steel, ship building, textiles, and consumer electronics while new high technology industries with growing markets have to be established and expanded. In many sectors of the high technology industries, as in the computer and communication electronics sector, German companies are still behind both their American and Japanese competitors, who can take advantage of this situation. High quality

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PREUSSAG

Preussag Aktiengesellschaft, headquartered in Hannover, is the Holding Company of a Group with interests in manufacturing, trading and rendering services.

Preussag's domestic activities include
- mining of non-ferrous metal ores, production of lead, zinc and their alloys as well as pure metals,
- leasing of railroad tank cars, operating of inland waterway ships and offshore supply boats as well as tank farms,
- exploration and production of oil, gas and coal,
- construction services.

The international part of the Preussag business was of increasing importance during recent years. A breakthrough was the acquisition of a major shareholding in Amalgamated Metal Corp. PLC, (AMC), London, which enabled Preussag to obtain access to the trading on the London Metal Exchange and to offer worldwide services in non-ferrous metal trading besides AMC's interests in tin mining, tin smelting and other activities.

Sales of the Preussag Group (world) in 1982 totalled DM 11.2 billion, the number of persons employed was 20,754 and a dividend of DM 56.0 million was payed on the share capital of DM 350.0 million.

1 Shovel loader picking up loose rock at the Preussag Rammelsberg ore mine
2 Handling of a compressed gas container of VTG at the harbour of Rotterdam
3 Sucker rod-pumps in the Rutbrook oil production field near Hamburg
4 Dry-powder (2,000 kg) appliance from Preussag Minimax at Hannover airport fire brigade

Preussag AG, Leibnizufer 9, 3000 Hannover, Germany

High quality consumer products are also good investment areas, aside from the expensive high technology industries.

consumer products are also good investment areas, aside from the expensive high technology industries.

• Since 1979 the US dollar has risen almost 50% against the DM from DM 1.7 to DM 2.7. This enormous rise does not correspond to the actual purchasing parity of both currencies, so that one may reckon with a realignment in the nearer future. In the meantime, the strong US dollar should be seen as a strong investment incentive, as indeed, it was in the 1960's.

Future U.S. Investment Perspectives for Germany

We predict the following trends for future investment flows from the USA:

(1) continuing moderate growth;
(2) selective investment decisions;
(3) a lesser number of favoured branches;
(4) the increasing value of acquisitions as an investment strategy;
(5) the increasing opportunities arising for acquisitions;
(6) the German acquisition environment continues to be substantially different from that in the U.S.

• As indicated above, the significant levels of American investment reached at the beginning of the 1970's will not be reached again in the near future. However, gradual growth is expected for the following reasons:

- the expansion of existing and the establishment of new market positions;
- the substitution of pure trading relationships by means of direct investments as a precaution against prevalent protectionist tendencies;
- the maximising of favorable exchange rates;
- making use of the newly arising acquisition opportunities.

• In the future, the investment decisions of American corporations are expected to be increasingly selective compared to past years; they are predicted to be firmly based on such modern concepts as strategic planning, portfolio models and growth-share matrices. As part of this rationalization the trend towards divestiture is also expected to increase.

• Concurrent with the investment and acquisition trends within the U.S., we expect the following German industries to be particularly favored:

- high technology/electronics;
- banking, insurance and other financial services;
- branded consumer goods;
- pharmaceuticals and specialist chemicals.

• The choice between the three investment strategies namely:

(a) company acquisitions;
(b) joint ventures with German partners;
(c) the founding of, or expansion of existing companies is dependent on:
  (1) the maturity of the existing German operations;
  (2) the risk factors and timescale preference of the US investor, as well as
  (3) the availability and price of suitable acquisition targets.

In both the sectors high technology and special products, 22% each of the 1982 US capital investment flow to Germany went into joint ventures as well as new start-ups. (Conference Board Statistics). The traditional concentration of the investment has been towards acquisitions, representing a total of 55% of US capital. US acquisitions in Germany in 1982 represented 1/8th of all American overseas acquisitions.

• The availability of German acquisition and merger opportunities is expected to increase in the future due to a shortage of capital funding in many Germany companies. Outside capital will be needed for re-structuring and new investment programs, particularly in the area of new technology. The notion of financing companies by way of public offer is still an under-developed tool in Germany, although there are signs that this is changing. Venture Capital is a particular growth sector which is still in its infancy; experienced U.S. specialists can open up new vistas for younger German entrepreneurs. Another growing market is that of those privately owned firms which have been established since 1945, and who now find themselves faced with a succession problem.

• The German market for companies and participations is significantly different from the

The availability of German acquisition and merger opportunities is expected to increase in the future due to a shortage of capital funding in many German companies.

American market for the following reasons:

(a) The German market is significantly smaller than that of the United States and is characterized by its quiet and discrete methods. There are only a few financial advisers and brokers who are active in the M & A sector.

(b) The German Stock Markets are not important areas for acquisitions; of the approximately 2 million German companies, only about 500 are quoted on the Stock Exchanges.

(c) The German economy consists essentially of many privately owned smaller to middle-sized companies, that for the most part belong to families and individuals. Negotiations require great skill and sensitivity, and success necessitates a good knowledge of the target company as well as established contacts.

(d) The public profile of German companies is less pronounced than in the United States, which makes intensive knowledge of the marketplace difficult.

Negotiations require great skill and sensitivity, and success necessitates a good knowledge of the target company as well as established contacts.

Conclusion

In comparison with other international investment locations Germany has in recent years again become attractive to U.S. corporations. United States investment into Germany looks as though it will increase, but with a new emphasis in investment strategy, with different favored sectors and specific methods. The 1980's should offer a variety of interesting acquisition and merger opportunities in Germany. ■

DEUTSCHE ZUSAMMENFASSUNG

Gegenwaertige Trends der US-Investitionen in Deutschland.

A. Die gegenwaertige Position und Entwicklung von US-Investitionen in Deutschland.

Ungeachtet der weltweiten Stagnation oder des Rueckgangs von US-Auslandsinvestitionen, ist Deutschland seit 1980 wesentlich attraktiver fuer Direktinvestitionen geworden.

Nach Statistiken des Wirtschaftsministeriums haben auslaendische Investoren in den Jahren 1981 and 1982 jeweils 4 Billionen DM in Deutschland investiert. Das bedeutet fuer die Zeit von 1961 bis 1981 einen Gesamtbuchwert von 61.8 Billionen DM. Dabei waren europaeische Investoren, einige OPEC Laender und Japan schneller als die Vereinigten Staaten und haben sich auf dem deutschen Markt staerker etabliert.

In den Jahren 1976 bis 1979 stiegen die US-Investitionen von 172 Millionen DM auf 1.221 Millionen DM. Der Gesamtwert liegt somit bei 21,939 Billionen DM. Mit einem Investitionsanteil von 33% sind die USA jedoch immer noch der wichtigste auslaendische Investor fuer Deutschland. In den Jahren 1980 bis 1982 lag die jaehrliche Steigerung bei 9% und damit weit entfernt von den Steigerungsraten der 60er Jahre mit 20% jaehrlich.

Trotz des langsamen Wachstums bleibt Deutschland auch weiterhin ein attraktiver Partner fuer amerikanische Investoren.

B. Der langsame Strom der US-Investitionen

Drei Gruende erklaeren das langsame Wachstum der Investitionen:

1. Viele Firmen haben die fuehrende Markt- und Investitionsposition in diesem Markt schon erreicht.
2. das Wachstums- und Ertragspotential von deutschen Firmen liegt unter dem US-Durchschnitt,
3. eine Klimaverschlechterung fuer Investitionen; US-Firmen sind konservativer in ihren Investitionsentscheidungen.

(1) Durch den staendigen Anstieg des amerikanischen Kapitalanteils in Deutschland wurde der Punkt erreicht, wo weitere Ausweitungen durch natuerliche und kartellrechtliche Einschraenkungen beeintraechtigt werden koennen. Heute schon haben US-Gesellschaften eine besonders starke Marktposition im Oelgeschaett, bei der elektronischen Datenverarbeitung, der Elektronik und der Automobilindustrie. In diese Bereiche gingen auch weitgehend die Investitionen der letzten Jahre.

(2) Die Realinvestition verringerte sich zwischen 1979 und 1981 auf 23%. Zusammen mit den niedrigen Ertragserwartungen fuehrte dies zu einer Zurueckhaltung der Investoren und hat auch Auswirkungen auf Reinvestitionen in Deutschland.

(3) Zum ersten Mal in der Nachkriegsgeschichte verminderte sich der Nettowert der US-Firmen in Uebersee um US $ 3 Billionen auf US $ 225 Billionen, und dies trotz der Dollarstaerke. Der Rueckgang laesst sich nur zum Teil durch die generelle wirtschaftliche Schwaeche, hohe Zinsen der USA, verminderte Liquiditaet amerikanischer Firmen oder durch politische und wirtschaftliche Unsicherheit erklaeren. Vielmehr ist eine neue bemerkenswerte Haltung der amerikanischen Investoren gegenueber existierenden und vor allem neuen Expansionsbewegungen festzustellen. Die Standardanforderungen fuer internationale Investitionen wurden hoeher, und es wird staerker nach rentablen Investitionsplaetzen selektiert. Bestehende Investitionen werden hinsichtlich der neu entwickelten Strategie der Muttergesellschaft gepruefft und bekommen entsprechende Auflagen. Diese eher strategische Orientierung sollte jedoch nicht als genereller Desinvestitionstrend angesehen werden. Zur selben Zeit gewinnt der US-Markt wieder an Bedeutung. Ein moeglicher Faktor kann die zunehmende Praesenz auslaendischer Unternehmen sein, deren Investitionsvolumen Ende 1981 bei $ 100 Billionen lag.

C. Deutschlands anhaltende Popularitaet bei US-Investoren.

Westeuropa ist durch seine relative Stabilitaet auch weiterhin fuer US-Investoren von Bedeutung. 1981 gingen 44% aller amerikanischen Ueberseeaktivitaeten nach Westeuropa. Deutschland lag mit dem Anteil von 7% ($ 16 Billionen) hinter Grossbritannien traditionell auf Platz zwei der europaeischen Rangliste.

Fuer amerikanische Investitionen in Deutschland sprechen:

1. minimales Risiko,
2. begrenzte Alternativen,
3. stabile politische und soziale Bedingungen,
4. Groesse und wirtschaftliches Klima des deutschen Marktes,
5. zentraler Zugang zur gesamten EG und Aktivitaeten gegen den Protektionismus,
6. ein ausgezeichnetes Marktpotential auf gewissen Gebieten,
7. die Kaufkraftstaerke des Dollars gegenueber der D-Mark.

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(1) Das Risiko in Deutschland ist minimal. Nach dem "Institutional Investor" liegt Deutschland mit seinen Kreditrisiken auf Platz vier, hinter den USA, Schweiz und Japan. Den selben Rang nimmt das Land auch nach dem "Business Environment Risk Information Index" ein, der auch Faktoren wie politische Stabilitaet, Inflationsraten, Zahlungsbilanzen etc., sowie die generelle Haltung gegenueber Auslandsinvestoren bewertet.

(2) Die Anzahl der europaeischen Alternativen ist begrenzt, da nur wenige Laender eine vergleichbare Marktgroesse, Politik und soziale Infrastruktur haben. Die Marktpotentiale der Schweiz und der Skandinavischen Laender sind relativ klein; Frankreich und Italien sind momentan durch ihre Politik zu unattraktiv.

(3) Deutschlands neue konservativ-liberale Regierung ist sehr fuer die freie Marktwirtschaft und nur begrenzt fuer staatliche Interventionen. Produktive Kraefte innerhalb der Wirtschaft sollen durch Steuererleichterungen und Investitionsanregungen gestaerkt werden. Das deutsche Mitbestimmungsgesetz wurde von Aussenstehenden oft missverstanden, doch ist es mitverantwortlich fuer die ausgezeichneten Arbeitnehmer-Arbeitgeber-Beziehungen. Ein Faktor ist auch das kooperative und leistungsbewusste Handeln der Gewerkschaften.

(4) Deutschland ist in Europa wirtschaftlicher Gigant. Es gehoert zu den fuehrenden Handelsnationen und hat das viertgroesste Bruttosozialprodukt der Welt. Die Kaufkraft und das Durchschnittseinkommen ist besser als der Durchschnitt in Amerika. Die deutsche Handelsbilanz ist positiv, die Inflationsraten und Zinssaetze waren teilweise geringer als in den USA. Die internationale Konkurrenztaehigkeit konnte trotz der hohen Lohnkosten noch erhoeht werden. Die relative Lohnkostensteigerung fuer die Jahre 1973 bis 1982 liegt nach dem "Economist" in Deutschland bei 32%, den USA bei 68%. Die Produktivitaet und Qualitaet deutscher Produkte bleibt weiterhin unbestritten.

(5) Deutschlands zentrale Lage in Europa ermoeglicht einen leichten Zugang zur EG, zu Spanien und Portugal und zur europaeischen Freihandelsvereinigung mit der Schweiz, Oesterreich und den Skandinavischen Laendern. Es gibt ueberzeugende Argumente fuer Direktinvestitionen in diesen Laendern, gerade unter dem Aspekt des zunehmenden Protektionismus. Diese Investitionen ermoeglichen den Firmen, die Handels- und Verbraucherbarrieren zu vermindern. Speziell Japan schuetzt seine Marktposition in der Elektronik- und Automobilindustrie auf diese Weise.

(6) Aehnlich wie andere europaeische Laender, gliedert Deutschland die traditionellen Industriebereiche wie Stahl, Schiffbau und Textilien neu. Neben hochtechnischen Industriegebieten wie der Computer- und Kommunikationstechnik, wo Deutschland hinter der amerikanischen und japanischen Konkurrenz liegt, sind qualitativ hohe Verbrauchsgueter ein gutes Investitionsgebiet.

(7) Seit 1979 ist der US-Dollar gegenueber der D-Mark von DM 1,70 auf DM 2,70 gestiegen. Da dieser Anstieg nicht dem Marktwert der Waehrungen entspricht, kann man in naher Zukunft mit einer Anpassung rechnen. Bis dahin sollte der Dollar als Investitionsanreiz gesehen werden.

D. Zukunftsaussichten der US-Investoren in Deutschland.

Folgende Trends werden fuer die Zukunft erwartet:

1. weiterhin ein maessiges Wachstum,
2. selektive Investitionsentscheidungen,
3. geringere Zahl von attraktiven Branchen,
4. mehr Firmenaufkaeufe als Investitionsstrategie,
5. Moeglichkeiten, die sich aus diesen Ankaeufen ergeben,
6. der deutsche Markt ist weiterhin verschieden zum US-Markt.

(1) Obwohl man fuer die nahe Zukunft nicht die Investitionsraten der 70er Jahre erwartet, rechnet man aus folgenden Gruenden mit einem langsamen Wachstum in den kommenden Jahren:

- Die Ausweitung und Gruendung neuer Marktpositionen,
- reine Handelsbeziehungen werden durch Direktinvestitionen ersetzt. Vorsichtsmassnahmen gegen den Protektionismus,
- die maximale Ausnutzung der guenstigen Wechselkurse,
- Anwendung der neuen Ankaufsmoeglichkeiten.

(2) Die Investitionsentscheidungen der amerikanischen Firmen werden selektiver und basieren vor allem auf modernen Strategien wie strategische Planung, Portfolio-Modellen und auf der Wachstums-Matrix. Im Zuge dieser Rationalisierungsmassnahmen ist auch mit Auflosungen von Unternehmensbereichen zu rechnen.

(3) Neben Investitions- und Anschaffungstrends in den USA sind folgende deutsche Industriebereiche besonders interessant:

- hochwertige Technologien und Elektronik,
- Banken, Versicherungen und finanzielle Servicebereiche,
- hochwertige Verbrauchsgueter,
- Pharmazeutische und spezielle chemische Bereiche.

(4) Folgende Investitionsalternativen stehen zur Verfuegung:

a) Firmenaufkaeufe
b) Moeglichkeiten der Beteiligung mit deutschen Partnern,
c) Gruendungen oder Erweiterungen von Firmen haengen ab:
   - vom Urteilsvermoegen der bestehenden deutschen Fuehrung,
   - vom Risiko und der Zeit, die US-Investoren bevorzugen,
   - von der Verfuegbarkeit und dem Preis eines Objektes.

Im Jahre 1982 lag der Investitionsschwerpunkt gleichermassen auf den Verbrauchsguetern und hochwertigen Technologien. Dabei wurde vor allem in Neugruendungen und Beteiligungen investiert.

(5) Da fuer die Zukunft in Deutschland ein Mangel an Geldmitteln erwartet wird, steigen auch die Investitionsmoeglichkeiten. Fremdes Kapital ist notwendig fuer die Neustrukturierung und fuer neue Investitionsprogramme, speziell auf technologischen Gebieten. Risikokapital ist ein besonderer Wachstumsbereich, der in Deutschland noch in den Kinderschuhen steckt. Ein zweiter wachsender Markt liegt in dem Bereich der Privatfirmen. Diese Firmen wurden nach 1945 gegruendet und sehen sich nun mit dem Problem der Nachfolge konfrontiert.

(6) Der deutsche Markt unterscheidet sich fuer Unternehmen und Beteiligungen in folgenden Punkten von dem US-Markt:

a. Der deutsche Markt ist deutlich kleiner und wird durch ruhige und diskrete Arbeitsmethoden gepraegt. Nur wenige Anbieter und Makler befassen sich mit Fusions- und Firmenhandel.
b. Die deutschen Boersen haben nicht diese Bedeutung. Von 2 Millionen Firmen sind nur 500 an der Boerse vertreten.
c. Die deutsche Wirtschaft setzt sich aus vielen Klein- und Mittelbetrieben zusammen, die zum groessten Teil Familien- und Privatbetriebe sind. Verhandlungen benoetigen ein gutes Geschick und Einfuehlungsvermoegen.
d. Das Profil der deutschen Firmen wird weniger deutlich hervorgehoben als in den USA. Dadurch wird eine genaue Einordnung auf die Marktposition schwierig.

Im Vergleich zu anderen internationalen Investitionsplaetzen wurde Deutschland fuer US-Firmen attraktiver in den letzten Jahren. US-Investitionen nehmen in Deutschland zu, jedoch auf anderen Gebieten und mit speziellen Methoden. Die 80er Jahre bieten eine Vielfalt von interessanten Firmenangeboten und Fusionsmoeglichkeiten in Deutschland.

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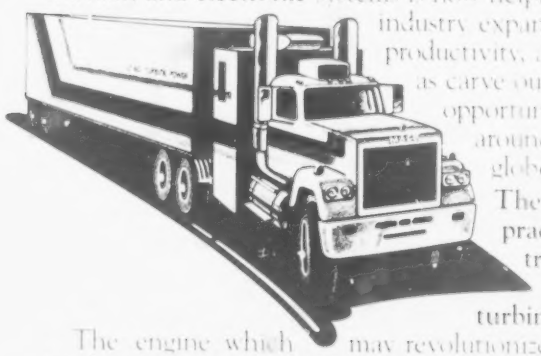

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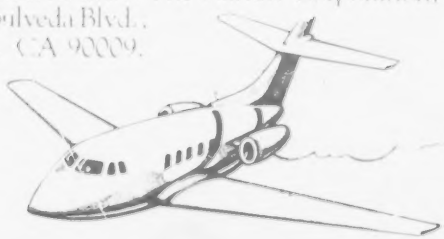

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interstoff	52. International Apparel Fabric Trade Show	29.10.–31.10.1984
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Recent Trends in German Investment in the US

by Dr. Walter Fabricius
Senior Vice President
Corporate Finance Department
Allied-Signal Corporation, New York

It is only 2 or 3 years ago that the avalanche of German investment poured into the United States, be it in the form of direct investment in corporations, in securities, monetary instruments, or in real estate. In the eyes of the German investors, almost anything in the U.S. was perceived to turn into gold and the country seemed to be free of the many restraints and structural problems which affected German corporations at home.

In 1980, a total of $1.9 billion was invested by Germans in the U.S. An additional $1.4 billion was invested in 1981. Since then pessimism has stricken German corporate and some private investors. This is reflected in a massive drop in 1982 of German direct investments in the U.S., particularly in the area of manufacturing, and the negative trend has continued into 1983. What has happened? While private investors in U.S. stocks, bonds and monetary instruments fared well, enjoying high yields and an appreciation of their dollar investments, there was a swing to a more negative mood as far as corporate and industrial investments were concerned. Many German companies began to question the merits of acquisitions they had made, and many corporations began to doubt whether the new plants they had established in the United States were properly sized and properly timed.

A closer look at the situation reveals in many cases that the concept of direct investment in the U.S. was not wrong but that the U.S. subsidiaries of German companies had simply been hit by the recession just as hard as their U.S. competitors. In many cases, there was an industry-wide reduction in business and profits, totally unrelated to the foreign ownership, or major structural changes in the U.S. market, most of which were recession-induced.

However, the euphoria of prior years had sometimes concealed structural weaknesses of German corporate investment in the United States: insufficient strategic planning and ill-timed expansions of plant and equipment. Here are a few examples:

1. Market Studies: The belief that a successful European product could sell itself on the U.S. market was often so strong that systematic market studies were deemed to be unneces-

Many German companies began to question the merits of acquisitions they had made, and many corporations began to doubt whether the new plants they had established in the United States were properly sized and properly timed.

sary and a waste of time and money. There seemed to be insufficient focus on the sometimes very subtle differences in the U.S. buying and spending habits plus (which can be typical of German corporate investors) an exaggerated emphasis on and belief in the quality aspects of products. In the absence of in-depth market studies, some failures of German direct investment were quite predictable.

2. Geography. While there was obviously an awareness on the side of German investors of the enormous size of the United States as compared to European countries, the effects of distance and the distinctively different regional markets in the United States have been underestimated in logistic and marketing planning.

Euphoria of prior years had sometimes concealed structural weaknesses of German corporate investment in the United States.

3. Management. Most German corporations, particularly the smaller firms, obviously do not command a reservoir of experienced management for their U.S. projects and subsidiaries. In relying on U.S. management, cultural differences and the typically shorter term orientation of U.S. managers were frequently overlooked. Companies often produced impressive results until structural weaknesses brought on a negative trend, fuelled by the recession.
4. Financing. The weaker capitalization of German companies and their U.S. subsidiaries, as compared to domestic U.S. competitors made many ventures more vulnerable in recessionary times and periods of high interest rates. Seemingly more expensive long-term financing was jeopardized in favor of short-term borrowings, which ended up to produce enormous interest cost burdens with the steep rise of floating interest rates.

While it is often impossible to pinpoint losses or corporate failures to the above partial catalogue, it remains a fact that a combination of the above-mentioned shortcomings very often created disappointments about U.S. direct investment which could, at least, have been partially avoided.

Recently, a more sober and selective attitude

The weaker capitalization of German companies and their U.S. subsidiaries made many ventures more vulnerable in recessionary times and periods of high interest rates.

to German direct investment in the United States has emerged. Gone are the times when it was almost a must to have a U.S. operation, however small the German parent company was at home. On the other hand, by no means has the strong interest of German companies in the U.S. operations faded. With the first strong signs of good economic recovery in the United States, revival of shelved expansion plans for manufacturing facilities can be witnessed. In addition, a surprising number of German corporations or their U.S. subsidiaries are reconsidering acquisition plans which were cancelled or postponed when the recession hit also the European parent company. This very recent trend of a fresh look to corporate acquisitions in the U.S. is on the one side hampered by the persistently strong dollar exchange rate, but favored by the damage the U.S. recession has done to many domestic companies. Numerous U.S. acquisition targets have come to the market or are at least considering being acquired by a German purchaser because the recession has eroded earnings and has slowed down research and development so that foreign technology is often welcome.

However, to avoid some mistakes of prior years, it is mandatory for any German investor who wants to be successful in the U.S. market place to examine the long-term prospects of products, technologies and marketing strategies, and to forego a "bargain" acquisition if the future prospects are not clearly visible.

It has been claimed that the strong U.S. dollar is the major reason for the reduction of foreign direct investment in the United States. However, it is not always easy to assess the impact of currency exchange factors on direct investment. When a project involves the substitution of imports from Germany by U.S.-made products, a strong U.S. dollar has a major influence since the German parent company can obviously continue to export its products at very competitive price levels. As far as acquisitions of U.S. companies are concerned, the concensus seems to be that if the long-term prospects for success can be ascertained, an acquisition should not be postponed because of currency exchange considerations.

Another interesting recent trend in U.S. corporate investment is a more global approach of many larger corporations. While in the past the focus was more or less exclusively on the U.S.

and maybe on the Canadian markets, many German investors now view the United States as a battlefield against other foreign competition, especially from Japan.

All the indicators seem to point out that German direct investment in the U.S. will continue and will resume its former pace. In this connection, it is maybe worthwhile to look once again on the uninformed view that the Germans, the British or the Japanese are "taking over" U.S. industry and commerce. Only a very small percentage of gross US industrial production is in the hands of German corporate investors. This is not unhealthy, and the many new ventures, new plants and plant expansion of recent years certainly contribute in a beneficial way to U.S. employment. As mentioned earlier, as a rule only a fraction of the management and personnel employed by German corporations in the U.S. is of German origin.

On the other hand, the criticism of "job exportation" from Germany to the U.S. should be

The concensus seems to be that if the long-term prospects for success can be ascertained, an acquisition should not be postponed because of currency exchange considerations.

Criticism of "job exportation" from Germany to the U.S. should be reviewed in the light of the recent recessions in the U.S. and in Germany.

reviewed in the light of the recent recessions in the U.S. and in Germany. While there are examples that unfavorable results of U.S. subsidiaries have hurt the German parents, many examples can be found where a successful U.S. business was in fact stabilizing or expanding a German parent and its employment. There is also litte doubt that the long-term earnings potential of U.S. subsidiaries will match or more likely exceed that of the German parent because of structural advantages in the U.S. economy and markets. ■

DEUTSCHE ZUSAMMENFASSUNG

Gegenwaertige Trends von deutschen Investitionen in den USA.

Die Autoren beschreiben:

1. den seit 1980 wieder deutlich positiven Trend amerikanischer Direktinvestitionen in Deutschland und die inzwischen erreichte Investmentposition,

2. Faktoren, die erklaeren, warum die extrem hohen Wachstumsraten amerikanischer Direktinvestitionen, wie sie in den 60er und fruehen 70er Jahren ueblich waren, voraussichtlich nicht wieder erreicht werden,

3. Anreize fuer weitere Direktinvestitionen in Deutschland,

4. Prognosen fuer das zukuenftige Investitionsverhalten amerikanischer Direktinvestitionen in Deutschland.

(1) Nach einer voruebergehenden Phase ruecklaeufiger Wachstumsraten nehmen die US-Neuinvestitionen in Deutschland seit 1980 wieder progressiv zu. 1982 investierten US-Firmen 1.221 Mil. DM; das waren 30% aller auslaendischen Direktinvestitionen. Von 1961-1982 bauten amerikanische Firmen ein deutsches Investitionsvolumen von 21,9 Mrd. DM auf und sind mit einem Anteil von rund 33% aller auslaendischen Direktinvestitionen nach wie vor die groessten auslaendischen Investoren in Deutschland.

Deutschland ist nach Grossbritannien der zweitwichtigste Standort fuer US-Direktinvestitionen in Europa. Auf diese Region enttielen Ende 1982 44%, das sind 101 Mrd. $ des gesamten amerikanischen Firmenvermoegens im Ausland, davon 7% auf Deutschland.

(2) Fuer die gesamte Periode 1976-1982 betrug das Wachstum amerikanischer Direktinvestitionen in Deutschland 23%, waehrend in den Jahren 1960-1975 durchschnittliche Wachstumsraten von 20% pro Jahr verzeichnet wurden. Neben dem verschlechterten $/DM Wechselkurs sind folgende Gruende fuer die nachlassende Investitionsdynamik verantwortlich:

1. die von vielen US-Firmen inzwischen erreichte tuehrende Marktposition
2. das vergleichsweise geringere Wachstums- und Gewinnpotential deutscher Firmen
3. das weltweit verschlechterte Investitionsklima.

(3) Europa, insbesondere Deutschland, wird wegen seiner relativen Stabilitaet auch weiterhin von grosser Bedeutung fuer US-Investoren sein. Fuer zusaetzliche Direktinvestitionen in Deutschland sprechen vor allem die folgenden Punkte:

1. minimales Laenderrisiko,
2. begrenzte Anzahl an europaeischen Alternativen,
3. stabile politische und soziale Rahmenbedingungen,
4. interessante Groesse des deutschen Marktes und guenstiges wirtschaftliches Klima,
5. zentraler Zugang zum EG-Markt und Prophylaxe gegen zunehmenden Protektionismus,
6. gute Marktchancen in bestimmten Sektoren,
7. gestiegene Kaufkraft des US-Dollar gegenueber der D-Mark.

(4) Fuer die naechsten Jahre werden folgende Trends bei US-Direktinvestitionen in Deutschland erwartet:

1. anhaltende moderate Wachstumsraten,
2. zunehmend selektivere Investitionsentscheidungen,
3. geringere Anzahl favorisierter Branchen,
4. zunehmende Bedeutung von Akquisitionen als Investmentstrategie,
5. zunehmendes Angebot an Akquisitions- und Beteiligungsmoeglichkeiten,
6. der Markt fuer Firmenkaeufe und Beteiligungen bleibt grundsaetzlich verschieden vom Markt in den USA.

Zusammentassend meinen die Autoren, dass Deutschland im Vergleich mit anderen Investitionsstandorten wieder attraktiver fuer amerikanische Firmen geworden ist. Das US-Engagement in Deutschland wird voraussichtlich weiterhin zunehmen, allerdings mit veraenderten Akzenten in der Investmentstrategie, den bevorzugten Branchen und den angewandten Methoden. Die 80er Jahre werden wahrscheinlich eine Vielzahl interessanter Akquisitions- und Beteiligungsmoeglichkeiten in Deutschland bieten.

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German Industrial Investments in the USA

by **Dr. Karl W. Brandt**
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Partner
Price Waterhouse, Atlanta

Introduction

For professional advisors and businessmen watching German investment activity in the USA, scarcely a day passes without an article on the subject appearing in business papers and magazines, a book being published with a wealth of advice or an investment in USA seminar being announced. There is even a magazine now published in Germany entirely devoted to the subject of US investment.

The impression of a high level of investment activity is fully supported by the German central bank's statistics which indicate that during 1981 and 1982 nearly one-third of all German foreign investment went to the United States and that as of the end of 1982 one quarter of all accumulated foreign investment was situated in the USA. The most recent statistics for 1983 indicate a continuation of this strong investment trend.

Some of the investment is of course temporary to take advantage of short-term exchange rate or interest fluctuations. Much of the total investment volume also relates to private capital flows of wealthy individuals who wish to diversify their assets and regard the USA as a politically and economically safe location for such investment. The investment flows analysed in this article relate however to corporate and industrial investment in USA businesses, whether an ongoing enterprise is to be acquired or a new plant is set up.

Germany, a late starter

Although Germany is undoubtedly Europe's strongest economy it still trails third, behind Great Britain and the Netherlands, in the country ranking of US direct investments. This is at least in part due to the fact that after World War II German investment in the USA started again from zero.

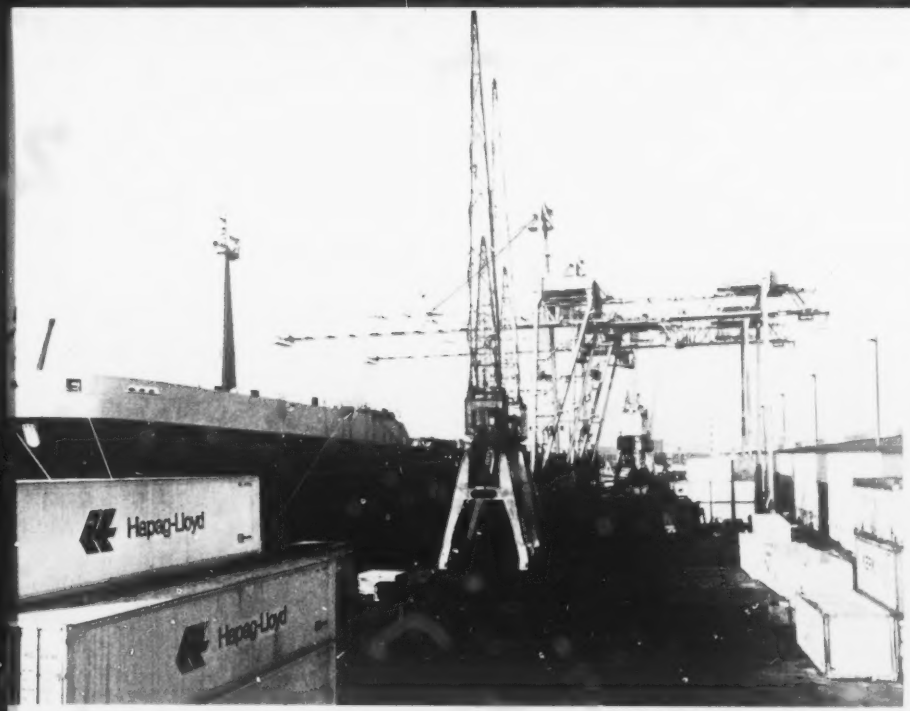
As can be seen from the following table, German postwar investments in the USA picked up significantly only during the mid 70's, with steady increases from 1975 to 1978, and continuing on a high level from 1979 to 1982.

TABLE 1:
GERMAN INVESTMENTS IN THE USA
(Billion DM)

YEAR	TOTAL	INCREASE
1972	2.2	–
1975	4.2	2.0
1976	5.4	1.2
1977	6.7	1.3
1978	8.6	1.9
1979	12.3	3.7
1980	15.7	3.4
1981	19.0	3.3
1982	22.3	3.3

Source: Bundesbank

A continuation of this development through the first half of 1983, will bring total German



investments in US manufacturing industries by mid-1983 to some US $10 billion or 25% of all German investments abroad. If one adds to this invested profits, long-term intercompany loans and German investments through foreign subsidiaries or holding companies, then the real total German investment in the USA could be in the region of US$ 20 billion.

German Industries investing in the USA

Initially it was the larger German firms who were quick to rebuild prewar connections. Frontrunners were the large chemical and pharmaceutical companies such as Hoechst, Bayer and BASF, followed by other large firms such as Siemens, Mercedes-Benz or Volkswagen. Most of these firms started by exporting their products, then established sales outlets and warehouses, and finally moved into manufacturing plants.

Frontrunners were the large chemical and pharmaceutical companies such as Hoechst, Bayer and BASF, followed by other large firms such as Siemens, Mercedes-Benz or Volkswagen.

Smaller to medium sized German firms followed later, and not always entirely of their own free choice: For example when Volkswagen decided to set up a manufacturing operation in the USA, it strongly urged some of its key German suppliers to follow suit in order to have a locally manufactured supply of known and proven components.

Other German companies developed their US market by searching for market niches to be filled by their products. An example for this is the German computer manufacturer Nixdorf which started its US involvement by selling small desktop dialogue computers. Interestingly, one of Nixdorf's initial target groups was the National Education Association with some 1.7 million active members.

Currently between 1,000 and 1,600 German firms have direct USA investments. A list of some important German industrial investors in the USA is shown on the table following.

The preferred East

Most German industrial investments in the USA took place within a 200-300 miles wide belt along the US East coast. Initially this investment favored the Northeast mainly for the following reasons:

- familiarity: many initial business contacts had developed in this area,
- buyer power: approximately half of the US buying power was within a 500 mile radius of Northeastern business centers,
- skills: a large reservoir of managerial, technical and, probably most important, a well trained labor force could be recruited easily in the Northeast. Also many local subcontractors were available in the Northeast.

During the late 70's and early 80's, German investments shifted further South along the East coast: the Carolinas, followed by Georgia and lately Tennessee, Alabama and Florida became prime targets for new German industrial investments, for which the following reasons were given:

- climate: the milder climate, lack of interruption by snow and fog, and the unpolluted air were major attractions,
- wages: the average pay in the Southeast was less than in the more industrialized Northeast,
- unions: generally speaking unionism of workers was and is far less developed in the Southern States than in the North,
- transparency: the German newcomers to the Southeast invested in smaller communities, providing easier access to local officials and less red tape in solving start-up problems.

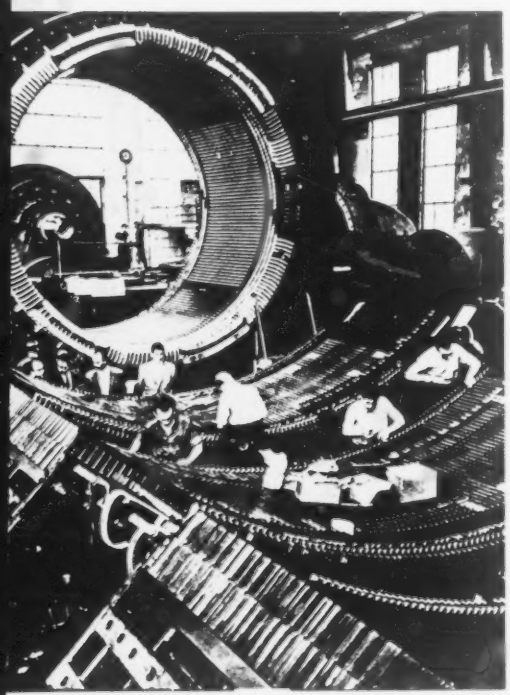
Until today the Southeast remains the prime area of attraction for new German investments. But parallel to this a steady move further west took and takes place, with particular emphasis on Texas and California and scattered investments in other western states.

Even the industrial heartland of the USA which for many years had to take second or even third place to other areas when it came to new investments, is seeing a renewed influx of German investments, for example:

- Bosch is setting up a new 25,000 sq. ft. Automotive Engineering Center in Michigan;

Other German companies developed their US market by searching for market niches to be filled by their products.

- Bayer is expanding the Cement Research Facility of its US affiliate Mobay in Pittsburgh;
- Leybold-Heraeus is expanding its subsidiary in Pennsylvania.



If one looks back on the development of German investments in the USA, not everything went entirely according to plan as indicated by the following examples:

- Volkswagen sold 1982 one third less vehicles in the USA than in the year before and has shelved its plans to open a second factory.
- the German energy companies Ruhrkohle AG and Stinnes lost nearly $100 million in investments in Virginia coal industries.
- Thyssen has suffered significant losses on its investment in Budd.
- BASF lost 1982 approx. $60 million through its subsidiary Wyandotte.

One key reason for general problems with US investments are listed below:

- Start-up problem underestimation: A recent study of Svenska Handelsbanken revealed three main reasons for problems with new US investments: a too optimistic attitude towards the difficulties in the start-up phase, underestimation of legal and regulatory prob-

TABLE 2:
IMPORTANT GERMAN INDUSTRIAL INVESTORS IN THE USA

GERMAN FIRM	US AFFILIATE OR PARTICIPATION	PERCENT SHARE	1981 TURNOVER OF US FIRM (in Mill $)
Bayer	Mobay Chemical	100	3.030
	Miles Laboratories	100	
	Cutter Laboratories	100	
	Helena Chemical	100	
	Haarmann & Reimer	100	
	Agfa-Gevaert	100	
Volkswagenwerk	Volkswagen of America	100	2.500
	Triumph-Adler	100	
BASF	BASF Wyandotte	100	1.839
	Badische	100	
	BASF Systems	100	
	Fritzsche Dodge & Olcott	100	
	Cook Industrial Coatings	100	
	Knoll Pharmaceutical	100	
Hoechst	American Hoechst	100	1.609
Siemens	Siemens Corp.	100	1.296
	Siecor	50	
	General Numeric	50	
	Siemens-Allis	85	
Thyssen	Budd	100	1.609
Daimler-Benz	Freightliner	100	931
	Euclid	100	
Henkel	Henkel Corp.	100	1.144
	Amchem Products	100	
	Clorox	25	
Tengelmann	Great A & P Tea	50	6.227
Flick	Grace	28	6.521
Haniel	Scrivner	100	864
Allianz	Allianz of America	52	553
	Munich Amer. Reins.	45	
	Munich Amer. Reass.	45	
Korf	Korf Industries	70	441
Otto Versand	Spiegel	100	423

Source: Forbes/Wirtschaftswoche

Till today the Southeast remains the prime area of attraction for new German investments.

lems and nonadaption to the US business environment (such as too many foreigners in key positions, too little emphasis on marketing).

- Submarkets: The USA consists of five to seven distinctly different submarkets each having different buyer attitudes, climatic conditions, purchasing power and competitive situations. Many German firms failed to recognize this and tackled the USA by treating the whole continent as a single market.
- Currency fluctuations: Most US investments were preceded by feasibility studies containing many years of projections based on assumed future exchange rates. Often violent changes in the exchange rates influenced cash flows, profits or losses of US investments with occasionally very negative consequences for the foreign investor (we are now witnessing a period when investors who took the plunge two years ago must be congratulating themselves on buying the dollar so cheaply).

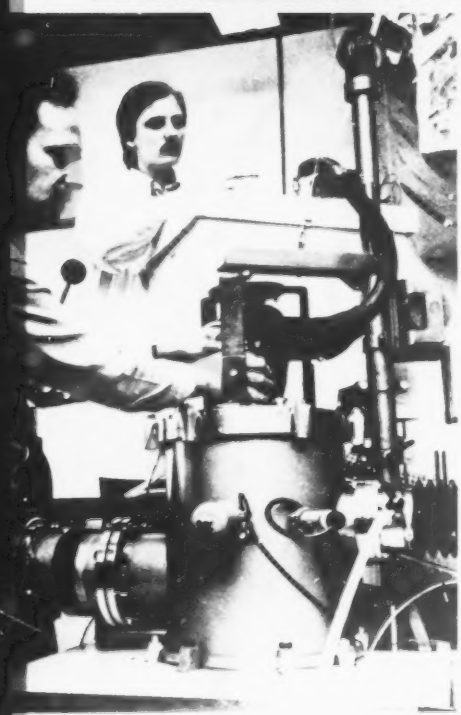
Because of the past prospects offered by the US market most German companies were ready to absorb their initial losses and hold on to their US investments with the aim of retaining market shares and earning profits in the future.

Conclusion and Outlook

The prolonged US and German recessions coupled with cash constraints and unfulfilled hopes in respect to past US investments have caused German managers to take a harder and more realistic look at new US investment plans. Profitable US investment rather than diversification at all costs has become the new guideline.

Many German managers and observers had learned the lesson that not everything is roses in the USA and that this market has its own rules and regulations. Those who respected these ground rules generally succeeded in the USA. But even the less fortunate companies are not giving up: A recent opinion poll among German investors in the USA revealed that 82% of the firms interviewed planned to stay in the market or even increase their US investment.

The ebbing recession is therefore likely to create a new flow of investment in the USA. This wave is currently being prepared by more prudent and more experienced investors. It is therefore expected that they will create more successful projects and thus serve to further business relationships between the USA and Germany. ■



Most German industrial investments in the USA took place within a 200-300 miles wide belt along the US East coast.

Solving Energy and Material Problems with High-Grade Refractory Products

The industrial age would not have started without solutions for high temperature problems. As technology advanced, the requirements went up. For a century and a half Didier tackles these problems.

Example:
The Revolving Gate for Casting Steel

The Problem

The idea to use a slide gate – in place of a stopper – to cut off the liquid steel being casted out of a ladle in the steel mill was already described in 1885.

The idea was born. However, the refractory material required was not yet available.

The refractory material used at that time could not have resisted the severe thermal, chemical, and mechanical stress. The slide gate remained an idea.

Steel technology continued to make progress: secondary metallurgy, continuous casting. Now the conventional stopper and nozzle system had definitely reached its limit of improvement.

The Solution

Modern ceramic refractory materials. Manufactured by Didier.

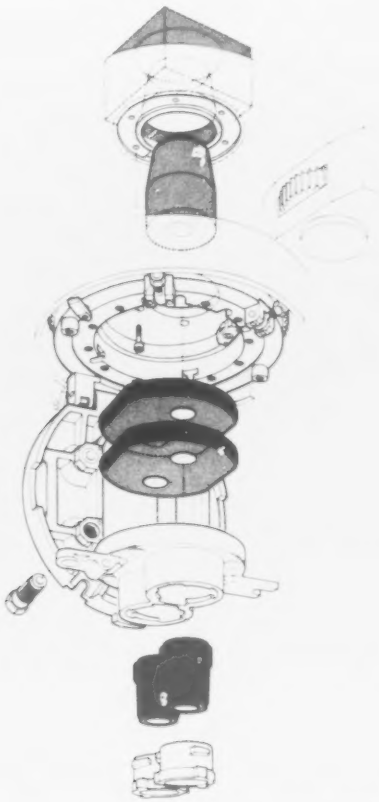
Only these materials permit practice-related design and construction of the plates – the heart of the new gate system.

At first only lateral movement of the plates was possible. Today, – inside the most modern gate – the plates are rotated.

The Application

Due to its compact construction the revolving gate can be installed without any major constructional rearrangement in casting ladles or other metallurgical vessels. Large flow amounts are possible with the smallest dimensions. The electric drive guarantees precise operation and this is an absolute must for the process automation of continuous casting.

The connection from ladle nozzle to bottom plate is constructed in such a manner that intensified heat removal prevents a breakthrough. Special refractory mastics protect critical joints against any penetration of steel.



The ladle nozzle can be positioned quickly and removed very easily after use.

High Precision is a Requirement

The decisive factor for the safe functioning of the revolving gate is the precise fit of the – ceramic – refractory parts. Didier works with the kind of precision previously only familiar to toolmaking shops working with metal. This is especially the case for the plates.

These ceramic machine parts are grinded on their surface to < 0.04 mm tolerance. The physical characteristics are regulated in such a way that the combined system mechanics/refractories functions perfectly even at temperatures above 1600 °C.

No Other Material Could Resist This

Mechanical wear due to direct contact with steel that is flowing, severe chemical attacks, thermal shocks at the start and during interruption of the casting operation.

Here some requirements: smooth surfaces, low porosity, slight wettability, extreme strength, highest abrasion resistance possible. This is all required for the following condition: service in high temperature areas.

A Further Step

Research and development work at Didier mean: trusting cooperation with those using the refractories, considering their experiences and problems, and their permanent transformation into even better refractory solutions. The latest step forward: On the INTERSTOP® revolving gate the back sides of bottom and rotary plates can be used as working surfaces, too. By revolving and turning the plates it is possible to significantly increase the specific number of casts.

The result: further improved economic efficiency.

Experience Leads to Security

These ceramic machine parts have been used in linear slide gates for more than a decade now. For 2 years they have been working successfully in revolving gates. Didier provided better process security inside the steel mill. Didier also helped to make the going easier at hard places to work.

Didier solves high temperature problems. All over the world. High-grade raw materials purchased around the globe. Manufacturing plants in many countries including the United States. World-wide sales and erection network. A leader in research and development. One of the most important refractory manufacturers in business today.

Coupon for Didier refractory materials

Slide gates
Conventional and continuous casting

Secondary metallurgy
Melting units, for example

Name/Company

Street

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DEUTSCHE ZUSAMMENFASSUNG

Das rege Interesse an deutschen Investitionen in den USA wird nicht nur durch zahlreiche Publikationen, sondern auch durch harte Zahlen belegt. Fast ein Drittel der deutschen Auslandsinvestitionen in 1981 und 1982 erfolgte in den USA, und Ende 1982 entfielen ein Viertel aller bisher getaetigten Auslandsinvestitionen auf die USA. Vorlaeufige Zahlen fuer 1983 bestaetigen die Fortsetzung dieses Trends.

Gegenstand dieses Artikels sind nicht die kurzfristigen, stark wechselkurs- und zinssatzabhaengigen US-Kapitalanlagen oder die umfangreichen privaten US-Vermoegensanlagen, sondern Investitionen in US-Unternehmen und US-Niederlassungen.

Deutschland steht mit seinen US-Direktinvestitionen erst an dritter Stelle nach Grossbritannien und Holland, was zum Teil damit zusammenhaengt, dass die deutschen Investitionen nach dem Zweiten Weltkrieg neu begannen. Wie sich aus obiger Tabelle 1 ergibt, haben die deutschen Investitionen erst Mitte der 70er Jahre wesentlich zugenommen, um sich ab 1979 auf einem hohem Zuwachsniveau einzupendeln.

Eine Fortsetzung dieser Entwicklung bis zur Jahresmitte 1983 wird die deutschen Investitionen in US-Unternehmen und US-Niederlassungen dann auf etwa US$ 10 Milliarden anwachsen lassen. Addiert man hierzu die reinvestierten Gewinne, langfristige Darlehen von verbundenen Unternehmen und indirekte deutsche Investitionen ueber auslaendische Tochter- und Holdinggesellschaften, dann koennten die gesamten deutschen US-Investitionen die Groessenordnung von US$ 20 Milliarden erreichen.

Deutsche Grossunternehmen wie Hoechst, Bayer, BASF, Siemens, Mercedes-Benz und Volkswagen waren unter den ersten, die nach dem Zweiten Weltkrieg wieder auf dem US-Markt aktiv wurden. Meistens wurde der Markt zunaechst durch Exporte erschlossen, dann entstanden US-Verkaufsgesellschaften und letztlich US-Produktionsstaetten.

Kleine und mittlere deutsche Unternehmen folgten spaeter und nicht immer ganz freiwillig, wie z.B. die deutschen Lieferanten von Volkswagen, als dieses Unternehmen eine Produktionsstaette in den USA errichtete. Andere deutsche Unternehmen erschlossen fuer ihre Produkte Marktnischen wie z.B. Nixdorf, das mit Schreibtisch-Dialogrechnern im US-Markt Fuss fasste.

Gegenwaertig sind 1000 bis 1600 deutsche Unternehmen mit Direktinvestitionen in den USA vertreten. Einige wichtige Investoren ergeben sich aus obiger Tabelle 2.

Die meisten deutschen Investitionen in US-Unternehmen erfolgten in einem 200-300 Meilen breiten Streifen entlang der Ostkueste, wobei der Schwerpunkt zunaechst aus folgenden Gruenden im Nordosten lag:

- Gebiet der ersten Geschaeftskontakte
- Konzentration von etwa 50% der US-Kaufkraft innerhalb eines 500 Meilen-radius um die dortigen Geschaeftszentren
- Verfuegbarkeit gut ausgebildeter Arbeitskraefte auf allen Ebenen sowie von Subunternehmern.

Waehrend der spaeten 70er und fruehen 80er Jahre breiteten sich die deutschen Direktinvestitionen ueber North- und South-Carolina und Georgia weiter nach Suedosten aus, und in letzter Zeit sind Tennessee, Alabama und Florida deutsche Investitionsschwerpunkte. Die Gruende sind folgende:

- milderes Klima ohne Schnee und Nebel sowie geringe Luftverschmutzung
- geringere Durchschnittsloehne und -gehaelter
- geringerer gewerkschaftlicher Einfluss, die deutschen Investitionen erfolgten hier in kleineren Gemeinden mit leichterem Zugang zu Behoerden und weniger Buerokratie bei der Loesung von Anlaufproblemen.

Obwohl der Suedosten nach wie vor sehr attraktiv fuer deutsche Investitionen geblieben ist, haben sich diese auch weiter nach Westen ausgebreitet, insbesondere nach Texas und Kalifornien. Auch Staaten im industriellen Kernland der USA wie Michigan und Pennsylvania erhalten wieder staerker deutsche Investitionen.

Betrachtet man die deutschen USA-Investitionen, so lief nicht alles plangemaess. Einige der Hauptgruende dafuer sind folgende:

- Unterschaetzung der drei wesentlichsten Anlaufprobleme: Zu optimistische Haltung in bezug auf Anlaufschwierigkeiten, Unterschaetzung staatlicher Vorschriften und rechtlicher Probleme, Nichtanpassung an die US-Geschaeftsgepflogenheiten (z.B. zu viele Auslaender in Schluesselpositionen, zu wenig Beachtung des Marketing).
- Teilmaerkte: Viele deutsche Unternehmen betrachteten die USA in ihrer Marketingstrategie als einen einheitlichen Markt und verkannten, dass es sich tatsaechlich um 5 bis 7 total unterschiedliche Teilmaerkte mit unterschiedlichem Kaeuferverhalten, Klima, Kaufkraft und Wettbewerbsverhaeltnissen handelt.
- Wechselkursschwankungen: Durch die extremen Wechselkursschwankungen sind haufig Cashflow- und Ergebnisplanungen erheblich negativ beeinflusst worden.

Wegen der vielversprechenden Aussichten auf dem US-Markt waren aber die meisten deutschen Unternehmen bereit, Anlaufverluste hinzunehmen und in den USA weiterzumachen.

Deutsche Manager stehen heute US-Investitionen kritischer gegenueber. Was zaehlt, sind die Gewinnaussichten und nicht Diversifikation um jeden Preis. Es wird akzeptiert, dass der US-Markt seine eigenen Spielregeln hat, und man im allgemeinen mit Erfolg hat, wenn diese respektiert werden. 82% der deutschen USA-Investoren beabsichtigen, im US-Markt zu bleiben oder sogar ihre US-Investitionen auszuweiten. Die abklingende Rezession duerfte wahrscheinlich zu neuen US-Investitionen fuehren, die aufgrund der inzwischen gewonnenen Erfahrung der deutschen Investoren erfolgreicher verlaufen sollten.

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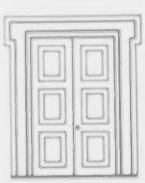

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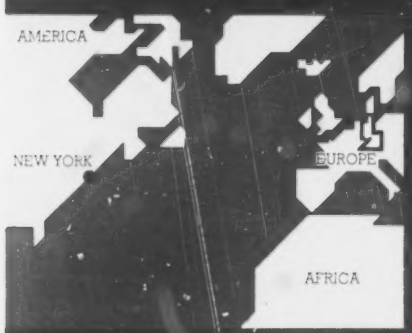

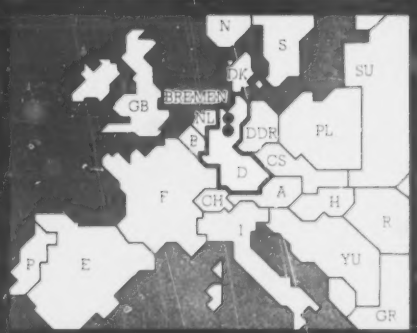

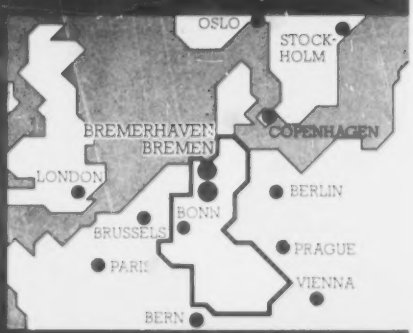

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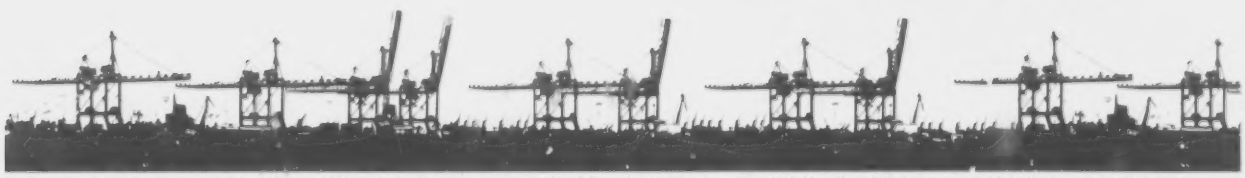

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Transatlantic Trade Policy

by William Brock
United States Trade Representative
Washington, D.C.

There is a view of economics that says the state is your shepherd and you shall not want. The government will manage the economy through dictate and direct intervention; set industrial policy by subsidizing those industries "chosen" for success; protect its control by regulating the price and volume of imports; and, finally, manage the resulting imbalances in supply and demand through the use of export subsidies, dual exchange rates, and barter trade.

At the center of this perspective is the conviction that the prime economic responsibility of Government is to shelter its industries from unpleasant realities, to create and maintain economic "balance" in a society, to decide on a political basis the appropriate distribution of production and resources.

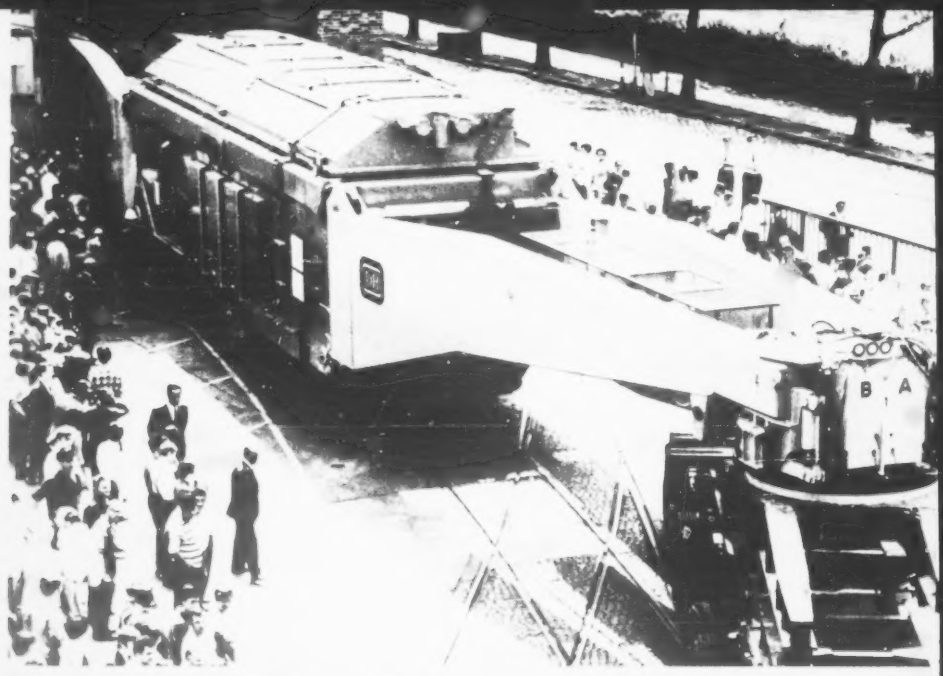
Protectionism flows naturally from such a philosophy and is a logical extension of the defensive and simplistic assumptions about the nature of economic growth and development that underlie statist economics. Trade protection is necessary, they say, because it defends us from the barbarous competition of low-wage countries' exports, protects us from unemployment, confers the "freedom" to avoid adjustment to the competition of superior applied technologies, remedies internal and external economic imbalances, and preserves certain jobs in certain industries.

A close companion to this point of view sees international trade as a residual, that is, what is leftover after you have secured your internal market for domestic production. This attitude towards trade has become increasingly fashionable during the recent economic downturn when the problems of import competition seem insurmountable, and politicians have no easy answer to high levels of unemployment and low levels to economic growth.

Shocked by economic adversity, frightened by the prospect of structural change, modern protectionists assert that competition from imported basic manufactures, mostly from low-wage developing countries, will deprive workers in developed countries of jobs that cannot be replaced. The solution seems so simple – let the Government take "control." Protect the domestic market, "manage" the residual (international trade), and indulge in the comforting fantasy that by doing so, you are "in control" of the economic forces that are threatening you.

These statist, protectionist attitudes toward

Protectionism is a logical extension of the defensive and simplistic assumptions about the nature of economic growth and development that underlie statist economics.



trade and economic activity exist despite chilling historical evidence to the economic and political costs that they generate. It is generally agreed that such attitudes greatly facilitated the descent into the Great Depression and World War II. Indeed, it was the realization that this was so that encouraged our leaders in the post War years to construct a system based on open markets and economic freedom and interdependence.

Beggar-thy-neighbor trade and financial policies and statist economic nationalism were banished, one thought forever, and replaced by a broad commitment to letting market forces operate with a minimum of interference. The goal was to harness the increased productivity that resulted from open competition and to squeeze the maximum economic gain from the available resources.

It seems so easy to forget how spectacularly

Modern protectionists assert that competition from imported basic manufactures, mostly from low-wage developing countries, will deprive workers in developed countries of jobs that cannot be replaced.

successful these efforts were. The United States and Europe enjoyed a generation of broad economic growth unparalleled in history. It is not accidental that this steady growth, political stability, and rising prosperity was accompanied by steadily declining barriers to capital flows and merchandise trade, and steadily increasing levels of international trade.

The 1970s have given all of us a nasty shock, an oil shock in fact, that resulted in a very substantial drain on our economies, on our productive resources, and on our capital pools. The response was, in many cases, to trot out the previously discredited justifications for Government intervention and trade protectionism. Now, just as we appear to be exiting from this prolonged period of economic contraction, the justifications for trade protection grow more insistent and more elaborate.

Infant industries must be protected, and mature industries as well. High technology industry, basic industry, service industries and manufacturing industries, steel and textiles, autos and chemicals, machine tools, books, motorcycles, T.V. sets, videotape recorders and compact audio disc players: it seems that there are few industries undeserving of protection.

The Philosophy of Growth

A very wise man recently opinioned that even majority vote cannot repeal economic reality. Modern protectionists have argued that the

developed world must manage international trade if our industries, our prosperity, even our way of life, are to be preserved. The reality is quite the opposite.

No one factor predetermines international competitiveness. There are many factors, including capital intensity, management style, worker training and productivity, national infrastructure, the financial system, entrepreneurial attitudes, the level of savings, investments and incentives, and the economic environment provided by Government, in addition to wage rates, raw material prices, and the terms of trade.

The interplay of these factors, under the pressure from international competition, may well result in fewer people employed in specific industries, but does this necessarily mean increased unemployment overall? Of course not. Fewer workers, operating under vastly improved working conditions now produce much more than did their forefathers; Cheaper, more abundant output has helped create other jobs, jobs unheard of in previous years, more jobs in other sectors that expanded when additional resources became available.

That is economic reality, and the key is productivity. In a world where we all, rich and poor, North and South, developed and developing, want to have more and more goods and services for more and more people, productivity growth is the only way to keep the pie growing for all. And protection is no remedy for stagnant productivity.

There is no substitute for competition to set real economic priorities for efficient resource use.

Indeed quite the opposite! A protected national market will, under most circumstances, "protect" its industries from competitiveness on the world market, the only market that can provide the economies of scale for many industries. There is no substitute for such competition to set real economic priorities for efficient resource use; without such accurate economic signals, no national economy can hope to effectively compete with others that have more open systems and that respond to the discipline of the international market.

It is this fundamental reality that should bind us to free trade, not some nostalgic attachment to dusty theory. This Administration's prime economic objective is to build a strong, prosperous, and growing U.S. economy. For us, free trade is essential in meeting that goal.

Moreover, the economic interdependence that has fomented the spectacular economic growth of the postwar era has also ensured that withdrawal from this process is all but impossible. Even a country with a large and expanding internal market like the United States is increasingly dependent on the international economy for its economic well being.

In just the last 10 years, trade has doubled in terms of the U.S. GNP, reaching 13 percent. Twenty percent of what we manufacture, and forty percent of our agricultural output is exported. Eighty percent of the new manufacturing jobs created in the U.S. in the last 5 years have been in industries involved in international trade.

Never again will the United States be able to confine its economic concerns to its domestic market. We are in international trade to stay, and we believe we have a pressing national interest in maintaining and expanding the free trade system. The lesson of recent history is that all nations have an important stake in seeing this system function and flourish.

Protectionism, Growth, and Development

Those that have the greatest need for rapid economic growth are the developing countries. Many have prospered in export-led growth strategies, reaping the benefits of free trade. The current international economic and financial crisis has halted this process for many countries. We must not forget that international interdependence has made their fate dependent on trade. Can we now say, "STOP! The pressure on our economies is too great. You must not compete so hard; you must not be so successful?" In justice, we should not attempt this; in reality, it would be folly to try.

The United States is keenly aware of the crucial importance of developing countries in the international trading system. This country

Never again will the United States be able to confine its economic concerns to its domestic market.

imports half of all the manufactured product exports of the developing countries worldwide. We export more to those countries than to Western Europe and Japan combined. Perhaps we are more aware than most developed countries that the capacity to import from us is directly related to developing countries' ability to sell to us.

This will be impossible if protectionism takes root in the economically advanced nations, if we simply decide to protect industries from such "predatory, low-wage competition." The United States will not do so, and we ask our partners in the industrial world to refuse as well. Such action, if shared by all, can do much to restore confidence, stability, and real growth to a battered global economy.

Speaking personally, I believe it is equally important to our economic futures that the statist economic model not spread in the developing world. A number of developing countries believe that this model is superior to one based on growth through successful international competition based on real economic factors. I believe those countries will be "in development" much longer for chosing such a path, a situation that has obviously negative implications for world prosperity and stability.

Conclusion

Clearly, future levels of economic growth and employment creation will be intimately tied to the growth of international trade and of economic productivity. Thus our individual national prosperity will be bound to the collective economic health of all our economies and of the international trading system. Benjamin Franklin's quip about hanging together lest we hang separately was never more appropriate than when applied to the present international economic situation.

Our economies are linked, whether we like it or not. The question that confronts us is: do we make use of the productivity gains possible from such a relationship, or do we hide from the opportunity, prefering to "go it alone." Do we fear competition so much that we will risk isolating ourselves from economic reality, waiting for the storm to pass?

It is my personal conviction that an attempt to enhance development of one's domestic economy behind a tariff wall is not a good economic survival strategy for the 1980s for any country. In addition, the implications for the world trading system if many countries adopted this policy would be disastrous.

I firmly believe that if we choose protection and economic isolation, we also choose defeat. We condemn ourselves and our children to lower growth, less future, less opportunity, and all the political choices that those conditions imply. ■

DEUTSCHE ZUSAMMENFASSUNG

Es existiert eine Untersuchung von Wirtschaftstachleuten, die besagt, dass Regierungen die Wirtschaft durch bestimmte und direkte Interventionen fuehren wollen, indem sie ausgewaehlte Industrien durch spezielle Verfahren subventionieren und zum Erfolg fuehren. Weitere Unterstuetzung wird durch Schutzkontrollen gewaehrt, durch die der Preis und der Wert der Importe geschuetzt wird. Schliesslich wird das resultierende Ungleichgewicht in Angebot und Nachfrage durch Exportsubventionen und einen Tauschhandel ausgeglichen.

Die daraus folgende Philosophie des Protektionismus ist eine logische Ausdehnung der defensiven und einfachen Unterstellung, dass das wirtschaftliche Wachstum und die Entwicklung einer Planwirtschaft unterliegt.

Danach ist Handel nur noch jener Teil, der nach der Sicherstellung eines internationalen Marktes fuer die einheimische Produktion uebrigbleibt.

Moderne Protektionisten behaupten, dass der Wettbewerb importierter Erzeugnisse, meistens aus weniger entwickelten Laendern, den Industrienationen Arbeitsplaetze raubt, die nicht ersetzt werden koennen.

- Diese planwirtschaftliche, protektionistische Einstellung gegenueber Handels- und Wirtschaftsaktivitaeten besteht trotz dem nuechternen historischen Beweis ueber die wirtschaftlichen und politischen Kosten, die sie erzeugen.

Sowohl eine Unterbewertung der Waehrung als auch ein finanzpolitischer und planwirtschaftlicher Nationalismus gehoeren verbannt und durch eine ausgedehnte Verpflichtung ersetzt, die Marktkraefte mit einem Minimum an Interventionen wirken lassen.

Es scheint so einfach zu sein, den spektakulaeren Erfolg dieser Vorkehrungen zu vergessen. Die Vereinigten Staaten und Europa freuten sich ueber das Resultat eines in der Geschichte unvergleichbaren breiten wirtschaftlichen Wachstums.

Die 1970er brachten fuer uns alle einen tiefen Schock. Ein Oelschock, aus dem fuer unsere Wirtschaft eine erhebliche Belastung resultierte. Die Reaktion war die Zurschaustellung und Rechttertigung der frueher in Misskredit geratenen staatlichen Interventionen.

DIE PHILOSOPHIE DES WACHSTUMS

Nicht nur ein Faktor bestimmt die internationale Konkurrenztaehigkeit, sondern viele wie z.B. Kapitalintensitaet, Fuehrungsstil, Berufsausbildung und Produktivitaet, nationale Infrastruktur, Finanzsystem, unternehmerische Einstellung, Sparquote, Investitionen und Investitionsanreize, und die wirtschaftliche Umgebung,die von der Regierung bereitgestellt wird. Zusaetzlich noch Grundlohntarife, Preise fuer Rohstotte und Handelsbestimmungen in den verschiedenen Nationen.

Produktives Wachstum ist die einzige Moeglichkeit, damit dieser 'Kuchen' fuer alle zunimmt. Es gibt keinen Ersatz fuer solchen Wettbewerb, um wirkliche Prioritaeten fuer einen effizienten Gebrauch der Geldmittel zu ersetzen. Ohne diese genauen wirtschaftlichen Signale kann keine nationale Wirtschaft auf eine effektive Konkurrenz mit jenen Laendern hoffen, die offenere Wirtschaftssysteme haben.

Durch diese wirtschaftliche Objektivitaet der Regierung soll eine starke, erfolgreiche und wachsende US-Wirtschaft aufgebaut werden. Fuer uns ist der freie Handel unbedingt notwendig, um dieses Ziel zu erreichen. Die Vereinigten Staaten werden sich mit ihren wirtschaftlichen Unternehmen nicht wieder auf die Binnenmaerkte beschraenken.

Die Entwicklungslaender haben ein schnelles wirtschaftliches Wachstum am notwendigsten. Die Vereinigten Staaten sind sehr beeindruckt von der entscheidenden Bedeutung der Entwicklungslaender im internationalen Handelssystem. Wir exportieren mehr in diese Laender als nach Westeuropa und Japan zusammen. Vielleicht ist es uns staerker bewusst als den meisten anderen Industrienationen, dass die Importkapazitaet der Entwicklungslaender direkt von der Moeglichkeit abhaengt, was diese Laender an uns verkaufen koennen.

Dies wird jedoch unmoeglich sein, falls der Protektionismus Wurzeln in den wirtschaftlich entwickelten Nationen fasst.

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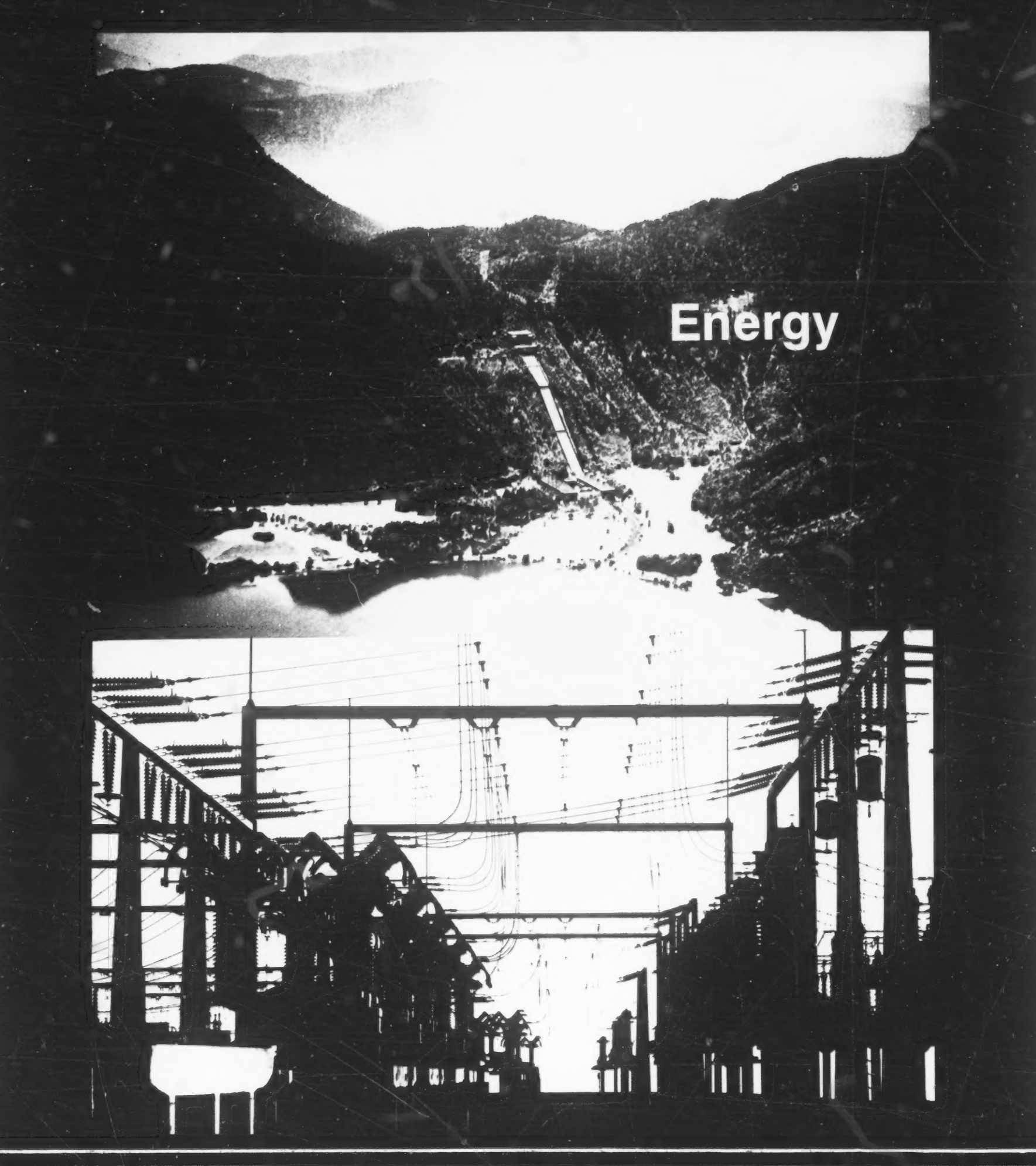

Energy

German Energy Outlook

by Dr. Rudolf von Bennigsen-Foerder
Chairman of the Management Board
VEBA AG

At mid-year 1983, the energy situation in the Federal Republic of Germany and on world markets looks moderately stable. A look at developments to 1990 reveals little cause for alarm.

Accordingly, as it should be demonstrated, in Germany in medium term, moderate developments appear to be most likely. But this was the view of the forecasters in the beginning of the 1970's. Of course, thereafter the energy economy found itself launched in a turbulent crisis which had not been foreseen. It would be foolish not to learn from the experience of the last ten years, or, accordingly, not to provide for our energy security. In the Federal Republic of Germany, these have been the most essential experiences:

- As the most primary raw material, energy is deeply and in many ways woven into our economic processes. The welfare of the citizen and the technological state of industry stands or falls with the provision of energy security and with favorable cost developments.
- The Federal Republic of Germany, a relatively energy-poor nation, is especially dependent on developments in global energy markets.
- In times of severe international energy crisis, the Federal Republic of Germany is not in a situation to guarantee its energy provision through national means.
- International energy crises, such as supply chokes or drastic price hikes, are hardly foreseeable from gross economic developments; their origins can lie in suddenly-arising international political conflicts.

Whereas the Federal Republic of Germany still suffers from the consequences of the energy developments of recent years – forced structural change, loss of growth, and unemployment – the energy situation has so relaxed, that it now appears necessary to recall once again the experiences of the last decade. How do we characterize the present-day energy situation in the Federal Republic of Germany and what are its prospects? First, we should present a few statistical data which indicate external market conditions.

The primary energy consumption of the Federal Republic of Germany is at the level of the early 1970s, even though in real terms the gross national product has risen nearly 20 percent during this time. In the meantime, in 1979, primary energy consumption was up by 15 per-

The welfare of the citizen and the technological state of industry stands or falls with the provision of energy security and with favorable cost developments.

cent. That these high levels of consumption will persist to 1990 seems unlikely, even if we assume real economic growth of 2 percent annually.

Independent of the stagnation of overall primary energy requirements, other negative trends have arisen which we can expect will develop further. While in 1972, 55 percent of energy requirements were met by consumption of crude oil and petroleum products, today this quotient stands at 40 percent and will fall to 35% by the beginning of the next decade.

The quotient represented by nuclear energy has developed from 1 percent to 5 percent today and will increase to 10 percent in 1990.

In the same period of time, the quotient represented by nuclear energy has developed from 1 percent to 5 percent today and will increase to 10 percent in 1990. Moreover, the portion comprised of natural gas had doubled since 1972 to nearly 16 percent. The quotient of energy made up of soft coal, hard coal, and hydropower has remained constant. The data cited shows that the largest share of the energy restructuring process is already underway, particularly as regards oil.

An important part of energy adjustment involves import independence for primary energy raw materials. True, the statistics show in recent years only a modest decline of the input quotient, from 66 to 63 percent. But this is largely accounted for by the fact that our growing use of nuclear energy has been principally met through imports. It is true that the Federal Republic of Germany commands no native sources of uranium ore, but the domestic need for nuclear fuel is secured for many years due to stockpiling. Moreover, uranium ore is distributed widely in the Western Hemispehre in the manner of hard coal.

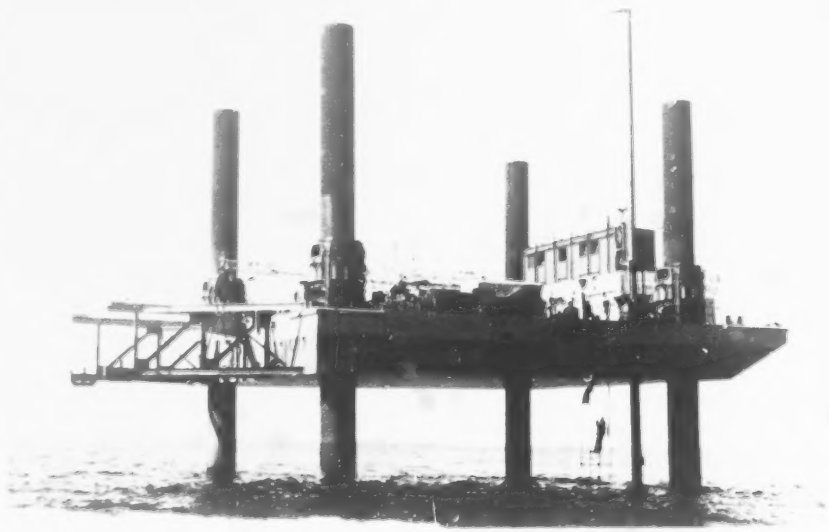
Another state of affairs which lies behind the bare statistics of energy import dependence is a switch from imported oil to imported natural gas. As long as the market for heat is lined up in favor of oil, such a diversification can operate very favorably. The fact that our increased gas needs can no longer be met through German and western European sources above, but must be 20 to 30 percent covered by imports from the Soviet Union, has been met by political criticism. The political foundations which underline the reservations about the Soviet-western European deal were thoroughly understandable and have contributed the necessary result that this contract has been fundamentally exercised. This is precisely why the outcome of this examination should be accepted: the additional gas volume from the USSR cannot weaken the energy security of the Federal Republic of Germany.

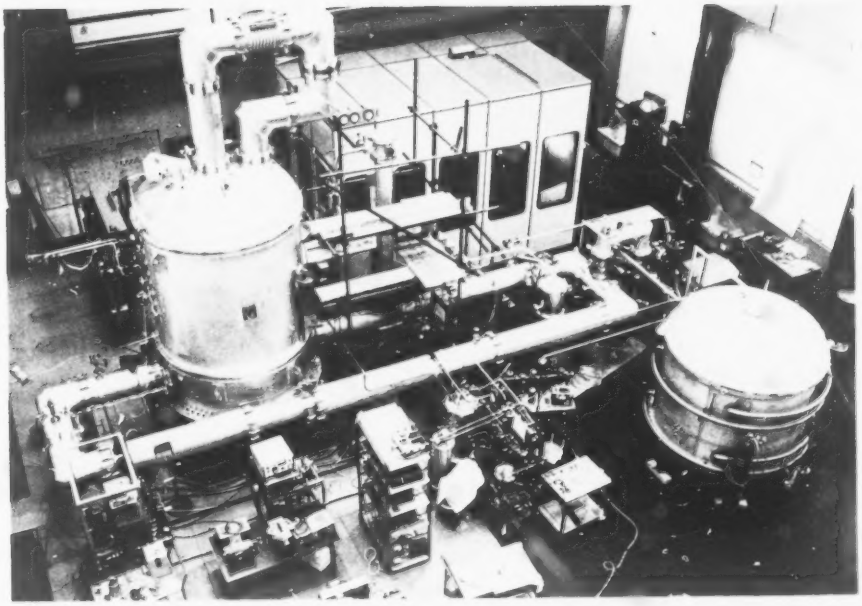
Dollar Exchange Rate Effects on German Oil Prices, 1980-1983

The re-distribution of our sources for crude oil had been a favorable development which is also an important part of the import picture. While in 1972 about 95 percent of our raw oil imports came from the Middle East and Africa,

Today 25 percent of our oil imports are covered by North Sea production, 33 percent by the Middle East and Africa.

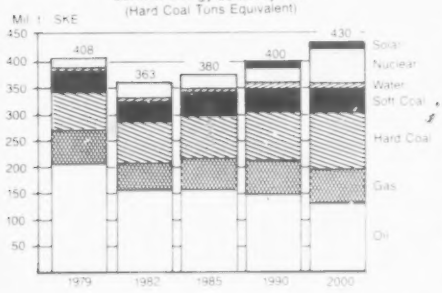
and only 0.4 percent from Western Europe, since then the one-sidedness of this supply structure has been corrected. Today (end of 1982) 25 percent of our oil imports are covered by North Sea production, 33 percent by the Middle East and Africa. From 1983 on a long-term contractural cooperation with the State Petroleum Company





ENERGY SOURCES TO 2000

German Energy Consumption
(Hard Coal Tons Equivalent)



of Venezuela, which will lead its crude oil to German markets in coming years.

Against these favorable developments, two processes are occurring which can negatively affect energy security. First we must observe that the length of crude oil contracts has in recent years become shorter. And secondly, we have ascertained that inside of a few years crude oil imports have fallen off more than the domestic need for petroleum products; the import of petroleum products is growing in significance. Both of these trends are the result of the completely liberal German oil market in the context of a supply overhang in the oil market, but not only in that market alone.

Overcapacities are no purely German phenomenon, but are the rule worldwide and all the more so, the more long-term the production planning for energy products is.

In all energy sectors of the German economy, capacity exceeds demand. This is in part a condition which has evolved by necessity, since the unforeseen fall-off in energy consumption occurred on a more short-term basis than the time frame of energy investments has allowed. This is especially the case for hard coal mining and electricity production, where investments won't come on line for a decade following the planning stage.

In this regard, overcapacities are no purely German phenomenon, but are the rule worldwide and all the more so, the more longterm the production planning for energy products is. In percentage terms, the greatest overhang exists today in OPEC oil production.

This is convincing proof for the basic thesis of the liberal economy, whereby in free markets power continually creates a balancing power. The greatest collapse in sales are to be observed today where a decade ago the distortions in the energy world occurred. In retrospect two insights arise out of this. The conservation of oil would not have been so great, nor competitive alternatives to OPEC explored or set into production, had not oil price developments taken the dramatic turn they had.

The result of the operation of market forces has led *today* to relative energy security achieved at relatively favorable prices. And since the crude oil price is the "leading currency" in the energy market, so to speak, the entire price configuration in the international energy market has assumed a favorable character. This is also because of stiff competition in a market shaped by conditions of oversupply.

The difficult question is posed: How long can and will this favorable and secure condition in our energy situation last? Part of the answer depends on developments within OPEC. This organization has, as a result of its substantial losses in world markets, not only suffered in terms of political prestige, but has witnessed the onset of budgetary crises in many of its member states.

These observations have led to projections of further losses by OPEC, or else the competition from new cartels. Under this premise, power struggles between oil-producing states or regions could arise, through which market shares are enlarged by means of further price

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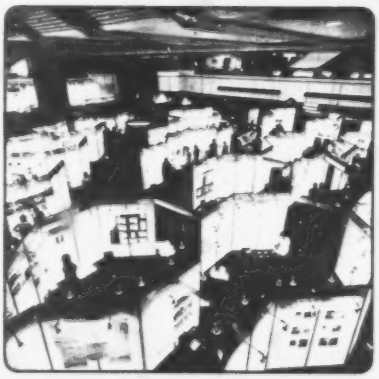

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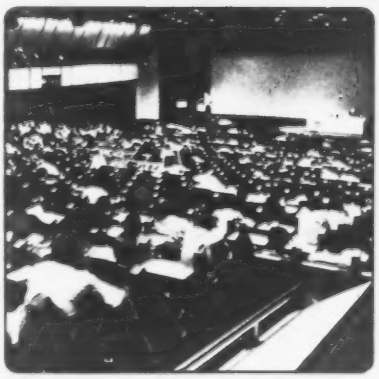

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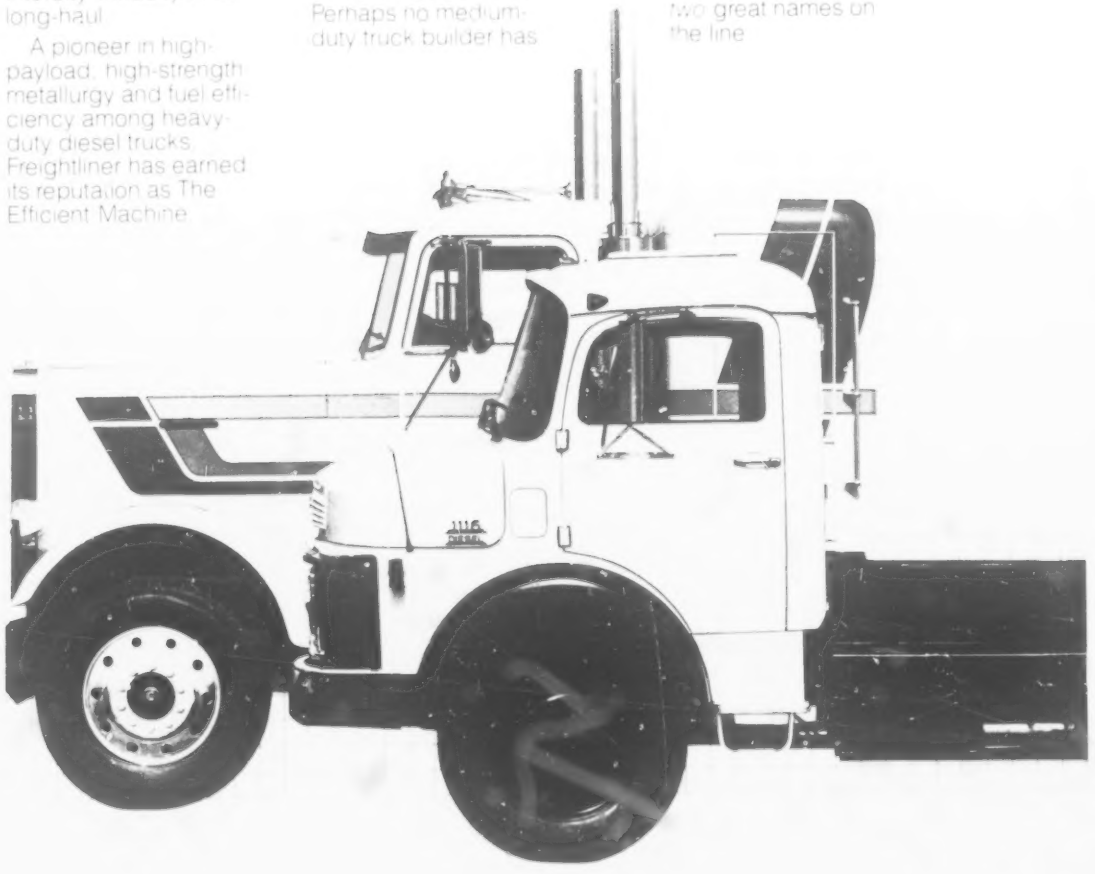

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falls.

Even if we accept the view of some forecasters that OPEC will stabilize itself – the price/quantity discipline of its members has grown steadily since the beginning of 1982 – this does not promise a repeat of drastic price increases, since the goal winning back economic power by the OPEC states would once again be undermined.

Since from a purely economic perspective – and to this pertains the only moderate expansion of world demand for energy in view of overall global economic weakness, we can count on a continuation of favorable trends on the international energy market.

Nevertheless we would do well to make sure that we are not led too easily to complacency by these relatively optimistic prospects. I now return to my opening remarks that the origins of critical developments on world energy markets are less to be seen in the purely economic realm and more to be feared through the operation of volatile political outcomes. This eventuality is to be considered the more energy dependent a nation is, and the fewer energy resources lay in its possession. This is the case of the Federal Republic of Germany.

Should the international oil price depart the realm of the purely economic and once again become a political weapon, the energy situation in the Federal Republic of Germany would be perhaps less jeopardized by a radical oil price rise and more so by a sudden oil price drop, for example, in order to pressure non-OPEC output which would be threatened by cheap oil without an economy of scale.

Among the political factors important to the security of energy supply belongs the political constellation of the entire Middle Eastern region. This includes the relation of parties within a few states as well as the relations between nations.

In consideration of the consideration of this region in the context of "east-west" relations and of course the possibility of local religious wars, there is plenty of opportunity for conflict. Despite many-sided efforts, especially by the United States, the potential for conflict cannot be mitigated.

The policy of reduction of the oil quotient and the minimization of import risk through diversification of energy sources and types has produced considerable success in the Federal Republic of Germany. This is less the result of political measures and more the outcome of a process of market adjustment, obtained through the interaction of both suppliers and consumers inside a relatively liberal energy market order.

Where the goals of energy policy have not been realized to the desired extent, the fallen energy requirement expectations provide the chance to address the problem. In the nuclear realm this is especially the case: By 1990 the strived-for portion contributed by nuclear energy must be reached, as desired through both economic and political considerations.

Against the favorable conditions of slow energy consumption growth rates stands worries which grow out of present overcapacity in German coal production. Here solutions are hoped for which cannot be oriented along lines of economic efficiency above. German coal has a politically-conditioned value as well as a cost and market value; it, too, is a national energy source.

German coal has a politically-conditioned value as well as a cost and market value; it, too, is a national energy source.

Under these conditions it is of particular importance that, between the national political parties as well as between unions and firms, no serious differences arise concerning the fundamentals of our energy policy.

If this consensus is maintained and, further, if in the Federal Republic of Germany we remain on guard against excessive foreign energy dependence, we can then look with confidence upon the energy situation in such a way that the energy security of the Federal Republic of Germany in the foreseeable future will not be protractedly disturbed. ■

DEUTSCHE ZUSAMMENFASSUNG

1. Einleitend

Die energiewirtschaftliche Lage in der Bundesrepublik Deutschland und anderen Weltenergiemaerkten scheint einigermassen stabil.

Doch waere es leichtsinnig, wuerden wir aus den Erfahrungen der letzten 10 Jahre nichts lernen und entsprechende Vorsorge treffen. Die wesentlichen Erfahrungen der Bundesrepublik Deutschland sind:

- Sicherheit und Preisguenstigkeit der Energieversorgung beeinflusst stark den Wohlstand.
- Als relativ energiearmes Land ist die Bundesrepublik besonders abhaengig von internationalen Energiemaerkten.
- Die Bundesrepublik Deutschland ist nicht in der Lage, ihre Energieversorgung mit nationalen Moeglichkeiten zu sichern.
- Internationale Energiekrisen sind kaum vorhersehbar, da ihre Ursachen in ploetzlich auftretenden internationalen politischen Konflikten liegen koennen.

Obwohl sich die energiewirtschaftliche Lage weltweit beruhigt hat, leidet die Volkswirtschaft der Bundesrepublik noch immer an den Folgen der Energieentwicklungen der letzten Jahre.

2. Energiestatistik

Der Primaerenergieverbrauch liegt heute auf dem Niveau der siebziger Jahre, obwohl das Bruttosozialprodukt seither um 20% gestiegen ist.

Unabhaengig einer ungetaehrten Stagnation des Primaerbedarfes ergeben sich trendmaessige Verschiebungen in dessen Zusammensetzung. Rohoel und Oelprodukte hatten 1972 einen Anteil von 55%, heute von gut 40% und Anfang der neunziger Jahre werden es etwa 35% am gesamten Energiebedarf sein.

Die Kernenergie entwickelte sich im gleichen Zeitraum ausgehend von 1% ueber heute 5% auf gut 10% in 1990. Ferner hat sich der Anteil des Erdgases auf heute knapp 16% verdoppelt, die Anteile der Braunkohle, Steinkohle und Wasserkraft blieben etwa konstant. Die Zahlen verdeutlichen, dass die Umstrukturierungsprozesse, vor allem das Zurueckdraengen des Oelanteils, bereits geschehen ist.

3. Importstruktur

Zwar weist die Statistik nur einen geringen Rueckgang von 66% auf heute 63% bei der Importabhaengigkeit der Primaerversorgung aus, jedoch liegt dies vor allem daran, dass die wachsende Nutzung der Kernenergie als Importenergie gezaehlt wird.

Ein weiterer Tatbestand der Importabhaengigkeit ist eine teilweise Umschichtung von Importoel auf Importgas. Dass der erhoehte Erdgasbedarf nicht aus westeuropaeischen Reserven gedeckt werden kann und kuenftig 20 bis maximal 30% aus der Sowjetunion eingefuehrt wird, stiess auf politische Kritik. Eine genaue Pruefung des Vertragswerks ergab jedoch, dass durch die zusaetzlichen Gasmengen die Versorgungssicherheit der Bundesrepublik nicht geschwaecht wird.

Zur Aenderung der Importstruktur gehoert ferner die Aufteilung der Oelimporte auf Herkunftslaender. Kamen 1972 noch rd. 95% der Rohoelimporte aus dem Nahen Osten und nur 0.4% aus Westeuropa, so deckte Ende 1982 die Nordsee bereits 25% des bundesdeutschen Rohoelimports, Afrika und der Nahe Osten je 33%.

Trotz dieser guenstigen Entwicklung ist zu beobachten, dass zum einen die Fristigkeit der Rohoelkontrakte in den letzten Jahren kuerzer wurde und zum anderen der Rohoelimport staerker Rueckla eutig ist als der inlaendische Bedarf an Oelprodukten. Dies bedeutet eine Zunahme der Produktimporte. Beides ist das Resultat des voellig liberal gepraegten deutschen Oelmarkts in Verbindung mit dem Angebotsueberhang am Oelmarkt.

4. Angebotsueberhang am Kaeufermarkt

Da sich der unvorhergesehene Energieverbrauchsrueckgang viel kurzfristiger ereignete, als die Fristen energiewirtschaftlicher Investitionsobjekte betragen, uebersteigen in allen Energiesparten der deutschen Volkswirtschaft die Kapazitaeten zur Zeit die Nachfrage. Ueberkapazitaeten gelten weltweit als umso groesser, je langfristiger die Produktionskapazitaeten zu planen sind.

Dass der groesste Absatzeinbruch heute dort zu beobachten ist, wo die Turbolenzen der Energiewelt ihren Ausgang nahmen, gilt als Beweis dafuer, dass in den freien Maerkten Macht stets Gegenmacht erzeugt. Denn weder waere der Einsparungsprozess so gross gewesen, noch waeren Konkurrenzgebiete zur OPEC so stark explodiert, ohne die Oelpreisentwicklung der letzten Jahre.

Das Ergebnis dieser Marktprozesse ist heute eine relativ preiswerte und sichere Versorgung mit Erdoel, und ein guenstiges Preisgefuege am internationalen Energiemarkt, auch bedingt durch einen haerteren Wettbewerb der in den Markt draengenden Ueberangebote.

Die Frage ist jedoch, wie lange diese Situation noch anhalten wird, da die OPEC-Staaten erheblich von ihrer Weltmachtstellung einbuessen mussten, politische Macht verloren und Probleme durch mangelnde Staatsfinanzen haben.

Manche Prognostiker glauben daher an einen weiteren Zerfall der OPEC, bzw. an den Aufbau neuer Kartelle neben der OPEC. Andere dagegen glauben an eine neue Stabilisierung innerhalb der OPEC. Doch unter wirtschaftlichen Erwaegungen rechnet niemand mit einer Wiederholung drastischer Preiserhoehungen, so dass man bis 1990 mit guenstigen Vorzeichen am Weltenergiemarkt rechnen kann.

5. Die politischen Rahmendaten.

Wir sollten uns jedoch nicht zur Sorglosigkeit verleiten lassen, da Ursachen krisenhafter Entwicklungen vor allem durch politische Ereignisse jederzeit und kurzfristig zu befuerchten sind.

Wuerde man den Oelpreis wieder als politische Waffe einsetzen, waere fuer die Bundesrepublik eine drastische Oelpreisverteuerung vielleicht weniger gefaehrlich, als eine radikale Preissenkung, um z.B. die OPEC Staaten unter die Schwelle technischer Wirtschaftlichkeit zu druecken.

Politische Rahmendaten sind u.a. die politische Situation im gesamten Nah-Ost-Bereich, Verhaeltnisse innerhalb einzelner Staaten sowie deren zwischenstaatliche Beziehungen.

Moegliche Konfliktpotentiale sind die Einbeziehung dieser Regionen in das Ost-West-Verhaeltnis, lokale Religionskriege, die trotz vieler politischer Bemuehungen nicht gemindert werden koennen.

6. Energiepolitische Ziele der Bundesrepublik.

Durch eine gute Marktanpassung der Energieverbraucher und Energieanbieter, kann die Bundesrepublik auf beachtliche Erfolge bei der Zurueckdraengung des Oeleinsatzes und der Minderung der Importrisiken schauen. Zudem wird bis 1990 der Anteil der Kernenergie das politisch wie unternehmerisch angestrebte Ziel erreichen.

Jedoch sollte man fuer Loesungen der Ueberkapazitaeten im deutschen Steinkohlebergbau nicht allein betriebswirtschaftliche Kriterien heranziehen, da die deutsche Steinkohle als grosse nationale Energiequelle unter anderem auch einen qualitativen politischen Wert hat.

Wenn wir in den Grundsaetzen der Energiepolitik keine gravierenden Meinungsunterschiede zwischen den staatstragenden Parteien, Gewerkschaften und Unternehmerverbaende haben und zudem das Bewusstsein fuer aussenwirtschaftliche Energieabhaengigkeit erhalten koennen, wird die gesamtwirtschaftliche Entwicklung der Bundesrepublik Deutschland aus der Sicht der Energieversorgung in absehbarer Zeit nicht wieder nachhaltig gestoert werden.

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United States Economic and Petroleum Conditions

by Dr. Tor Meloe
Chief Economist
Texaco, Inc.

After the worst recession in over 40 years, the U.S. economy is now firmly on the road to recovery. While lagging the general economic upturn, petroleum demand bottomed out in mid-1983 after more than four years of decline. Sales of gasoline and distillate fuels have led the advance.

Real GNP increased by more than 3% in 1983 over 1982, while the unemployment rate declined from a recession peak of 10.8% in late 1982 to 8.8% by last October. United States industry is now utilizing 79% of its manufacturing capacity. Industrial production in October 1983 was up 15% from its recession low.

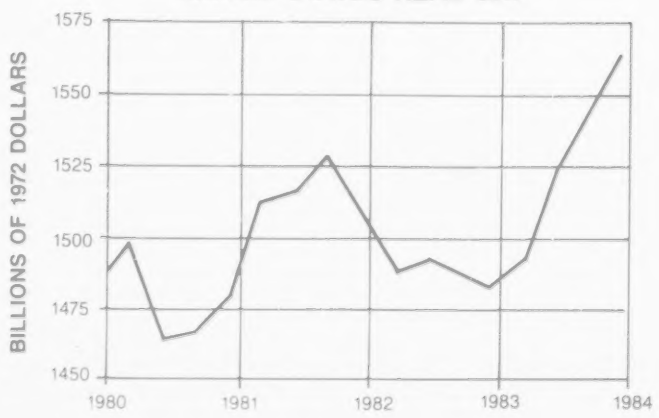
The economy should continue to strengthen in 1984, with real GNP expected to average 4.5% over 1983. Capital spending is expected to pick up due to the higher level of plant capacity utilization and increased corporate profits.

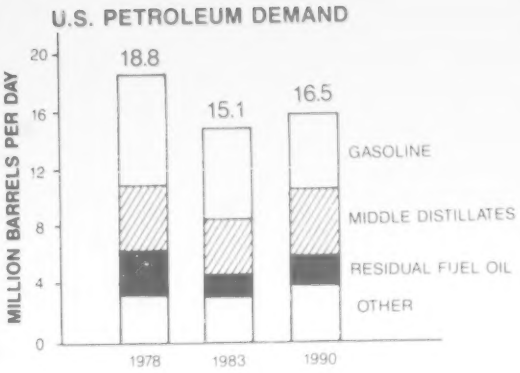
However, fundamental problems still remain which may prevent the present upturn from fully measuring up to the strength and duration of earlier recoveries. The most persistent problem is the massive federal budget deficit. Unless serious action is taken to scale back government spending, the deficit could exceed $200 billion per year throughout the 1980's, absorbing half of the nation's net savings between 1983 and 1988 and thus crowding out private borrowers from financial markets.

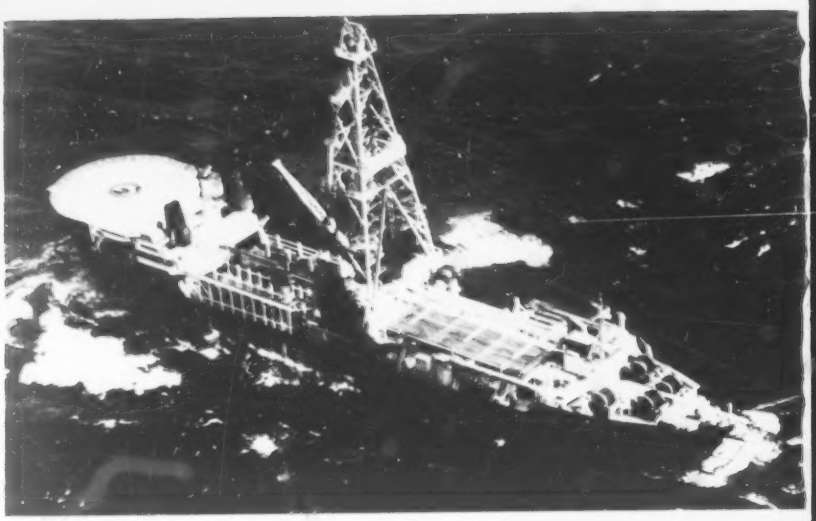
Huge federal borrowing requirements have kept real interest rates at high levels – a situation which could eventually slow or even abort the recovery. While the rate of inflation is down sharply since 1980, with consumer prices up only 2.9% between September 1982 and September 1983, the decline in nominal interest rates has not kept pace.

The continuing deterioration of the United States trade balance is also of grave concern.

UNITED STATES REAL GNP







Oil users responded to the surge in prices by switching to alternate fuels and modifying or replacing energy-intensive equipment.

A strong dollar and economic sluggishness abroad have limited demand for American exports, while the U.S. economic recovery is stimulating import growth. Furthermore, the global economic stagnation of recent years has resulted in high levels of unemployment in almost all of industrial countries, a crushing debt burden in the Third World, and growing protectionism.

Conservation Erodes U.S. Petroleum Demand

While the economic health of the United States started to improve in December 1982, the demand for petroleum products lagged the recovery. During much of 1983, oil consumption continued a down-trend that began more than five years earlier. Over this period, U.S. petroleum demand fell from a peak of 18.8 million barrels per day in 1978 to an estimated 15.0 million barrels per day in 1983 – an erosion of over 20%.

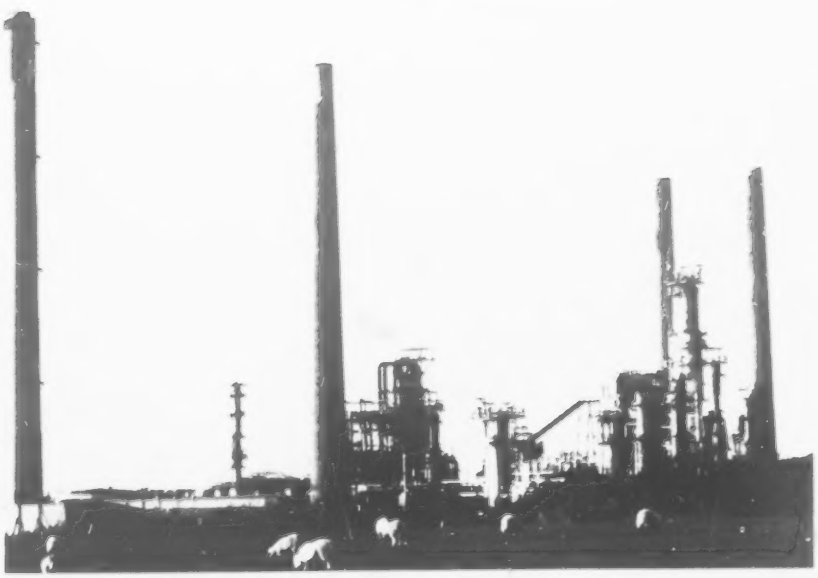
All major petroleum products were affected by the decline. Demand for gasoline and middle distillates, for instance, dropped by 13% and 19%, respectively. And consumption of residual fuel oil – the so-called "bottom of the refinery barrel" – plummetted by nearly 50%.

The driving force behind the decline in overall oil demand has been aggressive conservation measures adopted by consumers and industry as a result of the petroleum price escalations of the past decade. Oil users responded to the five-fold surge in prices in 1973-74 and almost three-fold increase in 1979-80 by switching to alternate fuels, reducing fuel-consuming discretionary activities, and modifying or replacing energy-intensive equipment.

The response to the price increases has differed widely for the individual petroleum products. Residual fuel oil, for example, has clearly borne the brunt of the fall-off in demand. The availability of cheaper substitutes has caused widespread fuel switching in the consuming sectors. Heavy fuel oil in many areas has been relegated to a swing fuel for industrial and utility priced coal, gas and nuclear facilities for base load requirements.

The middle distillates have fared only somewhat better. The 800,000 barrel per day drop in middle distillate consumption since 1978 reflected efficiency gains (lowered thermostats, increased insulation, and improvements in heating systems) and fuel switching, primarily to gas. The wide price disparity between heating oil and natural gas in many markets, and assured availability of gas, were largely responsible for conversions. In 1979 alone, more than one half million U.S. oil customers were lost to other fuels – about 90% of which converted to gas.

The price escalations of the past decade have had the least impact on demand for gasoline. This is primarily due to the lack of substitutes for gasoline in fueling the automotive fleet.



The relatively greater erosion in fuel oil demand than in gasoline and middle distillates has caused a significant "lightening" in the refinery barrel.

Nevertheless, motorists reacted to the price rise, initially by altering driving habits and then by shifting to smaller, more efficient autos. Very recently, however, there appears to be some movement back to larger cars. However, today's larger automobiles remain substantially smaller than those just several years ago and much more fuel efficient than the earlier models.

The relatively greater erosion in fuel oil demand than in gasoline and middle distillates has caused a significant "lightening" in the demand barrel. Refiners have responded by investing heavily in facilities to upgrade the bottom of the barrel to meet new demand requirements.

Substantial conservation lies ahead. The ripple effects of the 1973-74 price increases are continuing to influence oil demand, while the brunt of the impact of the 1979-80 price hike is yet to be felt. Econometric studies performed by Texaco have shown that over 60% of the total adjustment to the first price ratchet has occurred, compared to a response of only about 40% for the second run-up.

Oil Consumption Finally Rebounds

Clearly, conservation has not run its course. And fuel-switching and efficiency gains will act as a drag on future growth in petroleum demand. Nevertheless, with the rapidly improving U.S. economic environment, the first concrete signs of a demand turnaround began to appear in mid-1983. For the second half of 1983, U.S. oil consumption was up an estimated 1.7% over the comparable 1982 level. The light-end fractions – gasoline and distillates – led the advance, while the fuel oil market continued to erode. Yet, even with this second-half pickup, total petroleum demand was off roughly 160,000 barrels per day (1.0%) compared to 1982 consumption.

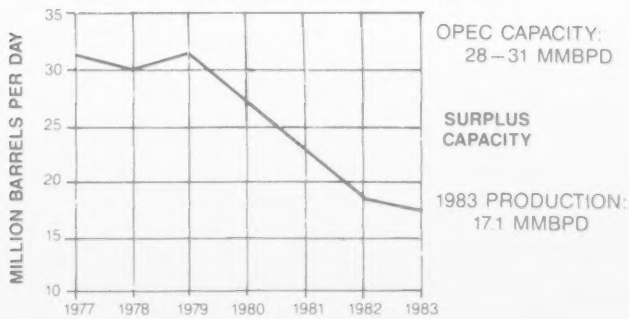
As the economy gains momentum in 1984, the cyclical demand upturn should be reinforced. Total petroleum consumption is expected to reach 15.5 million barrels per day – a modest annual increase, but the first in more than half a decade. Demand for gasoline and should be about even with 1983, while middle distillate consumption should rise 3.6%. The decline in fuel oil consumption should bottom out by early 1984 with a 6.3% increase expected for the year.

Over the long run, the 1973-74 and 1979-80 price effects will continue to constrain growth in oil demand. And at the end of this decade, U.S. petroleum consumption will have inched upward to no higher than 16.5 million barrels per day.

Motor gasoline demand, which led the other petroleum products in recovery from the recession, will trend downward over the long-term. Consumption of gasoline should reach about 5.8 million barrels per day in 1990, compared to 6.6 million barrels per day in 1983.

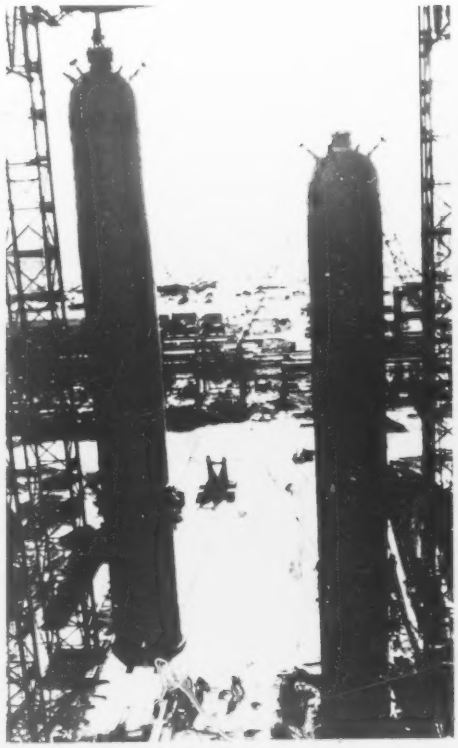
This decline reflects continuing improvements in the fuel efficiency of new cars (from about 23 miles per gallon in 1983 to about 30 in 1990) and increasing diesel penetration of the new car market. Demand for the middle part of the barrel will increase over the decade – partly a result of rising diesel penetration. And residual fuel oil consumption is expected to grow slowly as higher natural gas prices make heavy fuel oil competitive in certain areas of the United States.

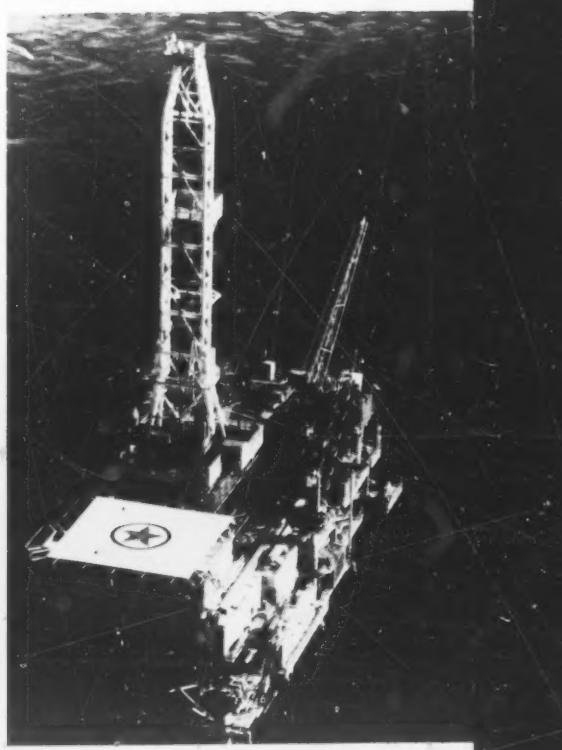
OPEC CRUDE OIL PRODUCTION AND CAPACITY



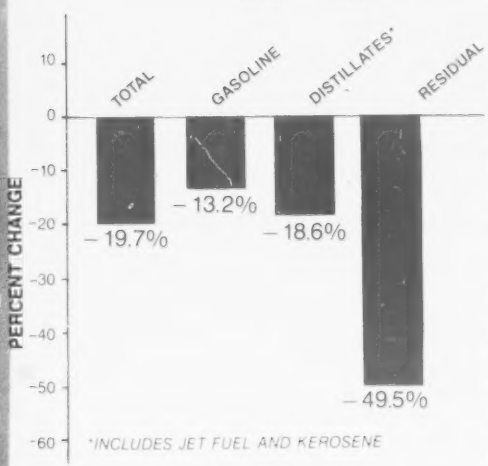
As the economy gains momentum in 1984, the cyclical demand upturn should be reenforced.

The sharp decline in oil consumption in the United States and other industrial nations has created a massive surplus of crude oil productive capacity.





CHANGE IN U.S. OIL DEMAND
1978 – 1983



A Look at the Supply Side

While the oil price escalations of the past decade have set in motion far-reaching changes in the structure of U.S. petroleum demand, dramatic shifts have occurred on the supply side as well. These changes have been most evident in the availability of oil and petroleum industry operations.

The sharp decline in oil consumption in the United States and other industrial nations has created a massive surplus of crude oil productive capacity – most of which is concentrated in the major OPEC nations of the Arabian Gulf. This surplus has been exacerbated by increased output from non-OPEC areas – primarily from Mexico and the North Sea, but also from the more mature fields in the United States. Since mid-1982, non-OPEC oil production has substantially exceeded that of OPEC. And relatively high prices charged by OPEC have made its crude the residual source of supply to world markets.

During 1983, productive capacity within OPEC exceeded actual crude oil output by at least 10 million barrels per day. Production quotas among member nations have been necessary to maintain market stability and head off a downward spiral in OPEC crude oil prices. Nevertheless, the price of Arabian Light (the so-called OPEC "marker" crude) was rolled back from $34.00 per barrel to $29.00 early in 1983. And the average contract price of internationally traded crude oils has declined by almost $7.00 per barrel since its peak in early 1981.

OPEC production controls have stemmed further declines in nominal crude oil prices. Yet, overcapacity continues to dominate the market and will do so for much of the decade. This should keep OPEC price increases at or below the general rate of inflation at least for the years immediately ahead.

For the United States, OPEC's excess capacity should provide a cushion in the event of a supply disruption. An additional cushion would be provided by the Strategic Petroleum Reserve, which at year-end 1983 exceeded 400 million barrels. Total petroleum imports into the United States are currently averaging 5.8 million barrels per day (38% of demand), down from 10.0 million barrels per day (49% of demand) in early 1977. The Strategic Petroleum Reserve could, therefore, replace half of today's import requirements for about five months.

For the oil industry, the impact of the recent developments has been unprecedented. The multi-fold increase in crude oil prices and sharp erosion in worldwide sales has forced the streamlining of all segments of the industry. In refining, for example, approximately 3 million barrels per day of U.S. capacity has closed, while much of the remainder has been forced to upgrade to handle the new demand barrel. Perhaps more importantly, the recent events have set in motion forces which will continue to impact on the market and challenge the industry for years to come. ■

WICHTIGE MITTEILUNG

des Gouverneurs von OKLAHOMA, U.S.A. an alle Geschäftsfreunde in der BUNDESREPUBLIK DEUTSCHLAND

WILLKOMMEN!

Die Auslegung der Verfassung des Bundesstaates Oklahoma durch den Justizminister dieses Staates im September 1979 fand weitgehende Beachtung. Nach seiner Lesart verbietet die Verfassung von Oklahoma ausländischen Anlegern den Erwerb von Grundbesitz in diesem Staat.

Da in vielen amerikanischen Bundesstaaten ähnliche Gesetze herrschen, schien die Möglichkeit für ausländische Geschäftsleute, in diesen Staaten Eigentum zu erwerben, in Frage gestellt.

Fur Oklahoma wurde diese wichtige Frage durch sein oberstes Gericht in folgendem Entscheid geklärt:

Die Verfassung von Oklahoma erlaubt ausländischen Anlegern den Kauf von nicht landwirtschaftlich genutztem Grund und Boden, wenn ihr Unternehmen oder Geschäft in Oklahoma eingetragen ist. Eine ausländische Firma gilt dann als eingetragen, wenn sie einen in Oklahoma eingetragenen Firmennamen hat. Die Eintragung unterliegt keinen besonderen Bedingungen.

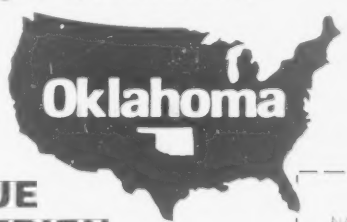
Als Folge dieses Gerichtsentscheids hat die Regierung von Oklahoma beschlossen, ausländische Investitionen in Form von Grundbesitz durch umfangreiche Programme zu unterstützen.

Ich möchte nur zwei Punkte besonders herausstellen:

1. Wir verfugen uber reichhaltige Öl—und Gasreserven. Energieknappheit wird es bei uns nicht geben.
2. Oklahoma bildet Fachkräfte für Ihren spezifischen Bedarf kostenlos aus.

Für weitere Auskünfte wenden Sie sich bitte an das Oklahoma Economic Development Department (Behörde für Wirtschaftsentwicklung) oder an die Deutch-Amerikanische Handelskammer.

George Nigh
Gouverneur von Oklahoma



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OKLAHOMA — Der gewinnbringende Staat

DEUTSCHE ZUSAMMENFASSUNG

Nach der schlimmsten Rezession seit ueber 40 Jahren sind die USA nun wieder auf dem Weg der wirtschaftlichen Erholung und auch im Jahr 1984 sollte es weiter aufwaerts gehen. Es wird erwartet, dass auf Grund einer besseren Kapazitaetsauslastung und eines steigenden Gesellschaftgewinns die Investitionen zunehmen werden.

Jedoch die fundamentalen Probleme, die moeglicherweise den gegenwaertigen Aufschwung etwas daempfen, bleiben bestehen. Das dringlichste Problem ist die enorme Staatsverschuldung der USA. Ein weiterer Problempunkt ist die staendige Verschlechterung der amerikanischen Handelsbilanz.

Die wirtschaftliche Gesundung der Vereinigten Staaten, die im Dezember 1982 begann, wurde durch die grosse Nachfrage nach Oelprodukten verzoegert. Im Jahr 1983 konnte der Oelverbrauch in allen wichtigen Bereichen weiter gesenkt werden, wie auch schon die vier vorhergehenden Jahre.

Oelverbraucher bestaetigten eine fuenffache Preissteigerung in den Jahren 1973-74 und eine dreifache Steigerung von 1979-80, als man damit begann auf alternative Energiequellen ueberzugehen und in moderne und rationellere Anlagen investierte. Die Reaktion auf diesen Preisansteig war bei den verschiedenen Oelprodukten unterschiedlich. Bei Heizoel zum Beispiel, konnte man einen sehr deutlichen Nachfragerueckgang feststellen. Die Verfuegbarkeit von billigeren Alternativen hat zu einer breiten Veraenderung auf dem Konsumguetersektor gefuehrt. In vielen Bereichen kann schweres Oel nur unter bestimmten Umstaenden verwendet werden. Der in vielen Maerkten grosse Preisunterschied zwischen Heizoel und Naturgas, sowie die sichere Verfuegbarkeit von Gas, haben wesentlichen Anteil an der Umstellung.

Die Preiskalkulationen im letzten Jahrzehnt hatten wenigstens eine negative Einwirkung auf die Nachfrage nach Benzin. Dies ist der wichtigste Beitrag bei einem Mangel an alternativen Brennstoffen fuer Automobile.

Die Gruende fuer die groessere Bewegung im Heizoelverbrauch als im Benzinverbrauch liegen in der Nachfragebedeutung. Die Auswirkungen der Preisanstiege von 1973-74 gehen weiter und beeinflussen auch in Zukunft die Oelnachfrage.

Der Einsparungswille hat sich nicht geaendert. Der Austausch von Energiequellen und die Ertraege aus Energieeinsparungen werden auch in Zukunft als Hindernis auf die Oelnachfrage wirken. Dennoch, durch die sich schnell verbessernden wirtschaftlichen Rahmenbedingungen in den USA ergeben sich die ersten konkreten Signale fuer einen Nachfrageumschwung seit Mitte des Jahres 1983. Zu einer beschleunigten Wiederbelebung der Wirtschaft sollte auch der zyklische Nachfrageaufschwung beitragen.

Auf Dauer werden die Preisentwicklungen von 1973-74 und 1979-80 weiter zu einer steigenden Oelnachfrage zwingen. Die Nachfrage nach Motorenbenzin wird auf lange Sicht zurueckgehen. Dieser Rueckgang spiegelt die Verbesserungen durch sparsamere, neue Motoren wieder und das zunehmende Durchsetzungsvermoegen der Dieselfahrzeuge auf dem Automobilmarkt.

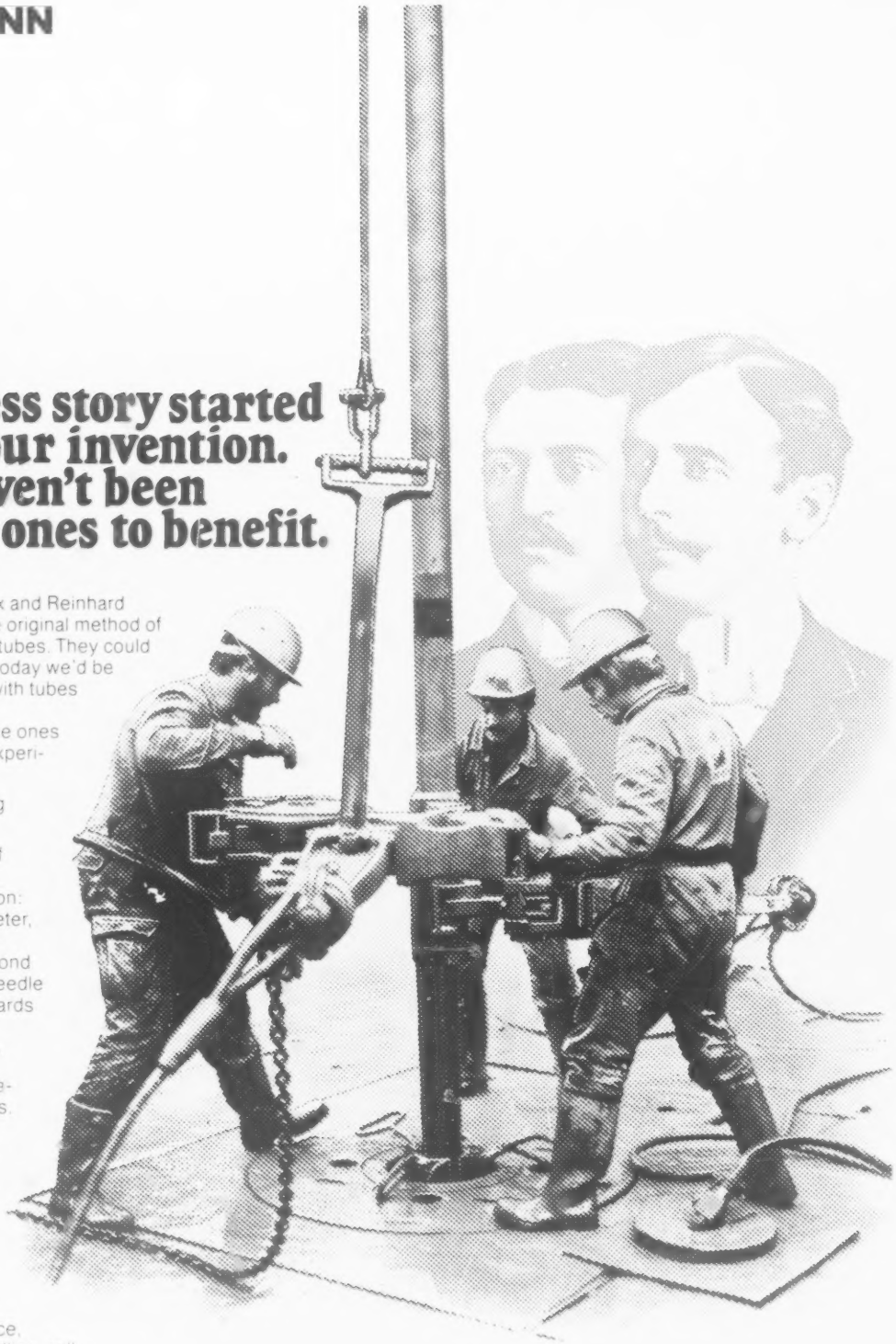
Der scharfe Rueckgang beim Oelverbrauch in den USA und anderen Industrienationen bewirkte einen grossen Ueberschuss an Rohoelkapazitaeten.

Die OPEC Produktionskontrollen konnten bis jetzt weitere Einbussen im Rohoelverbrauch verhindern. Ueberkapazitaeten jedoch dominieren auch weiterhin auf dem Oelmarkt und werden sich auch in diesem Jahrzehnt kaum aendern. Dadurch sollten die OPEC Preissteigerungen in der nahen Zukunft auf dem selben Niveau, oder unterhalb, der allgemeinen Inflationsrate liegen. Fuer die USA sollte der Ueberschuss der OPEC Nationen ein gewisses Sicherheitspolster fuer den Fall einer Lieferunterbrechung darstellen. Ein weiters Polster wurde durch die "Strategie Petroleum Reserve" bereitgestellt.

Fuer die Oelindustrie ist die Belastung aus den gegenwaertigen Entwicklungen beispiellos. Die mehrfache Zunahme der Rohoelpreise und die deutliche Stagnation in weltweiten Verkauf haben die Modernisierung in allen Bereichen der Industrie erzwungen.

MANNESMANN

This success story started with our invention. But we haven't been the only ones to benefit.



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Of course not just like the ones that came out of the first experimental mill.

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In ratio of depth to diameter, a 5" drill string going down 24,000 feet would correspond to a doctor's hypodermic needle 1/32" in diameter and 50 yards long.

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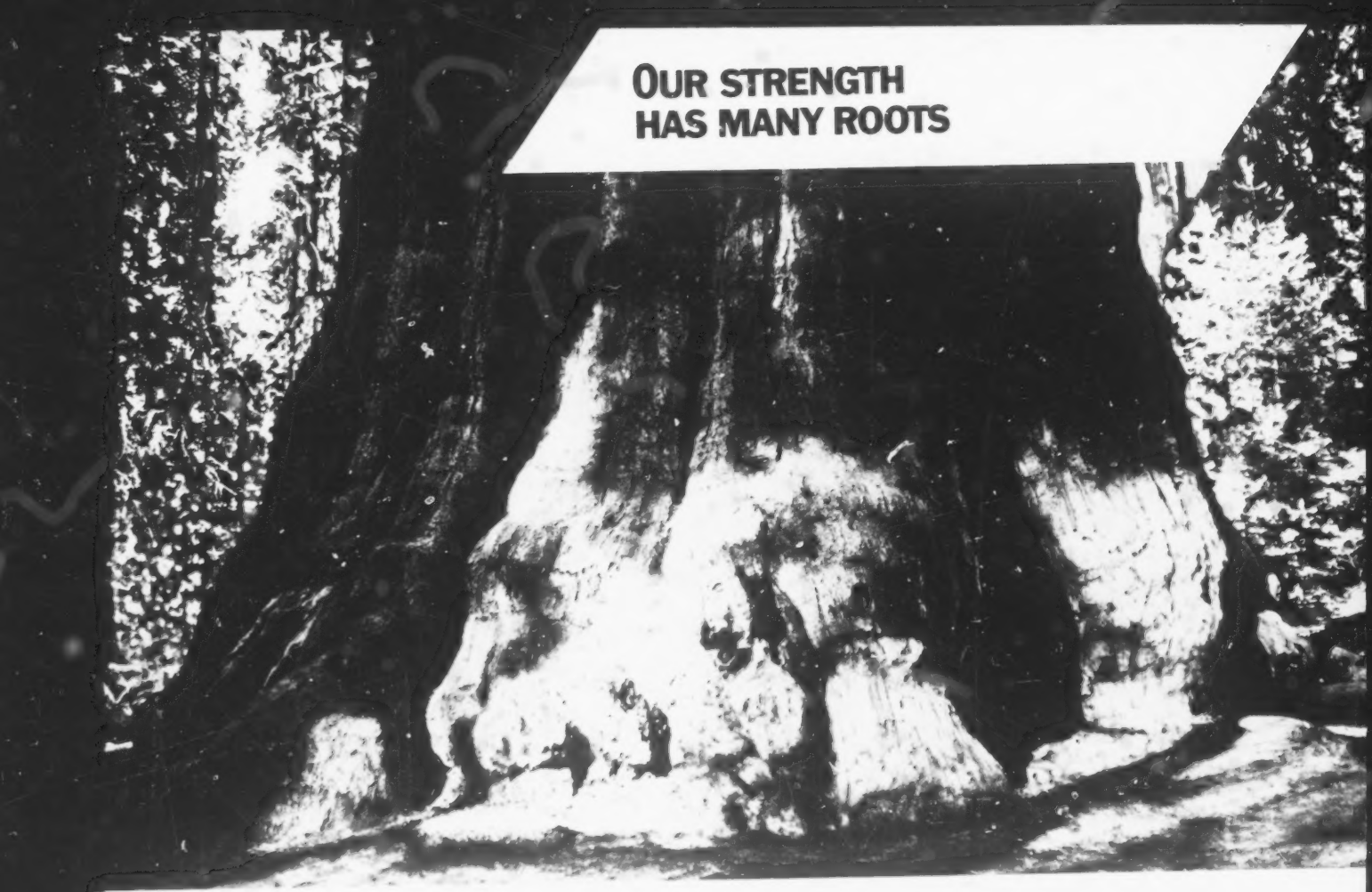

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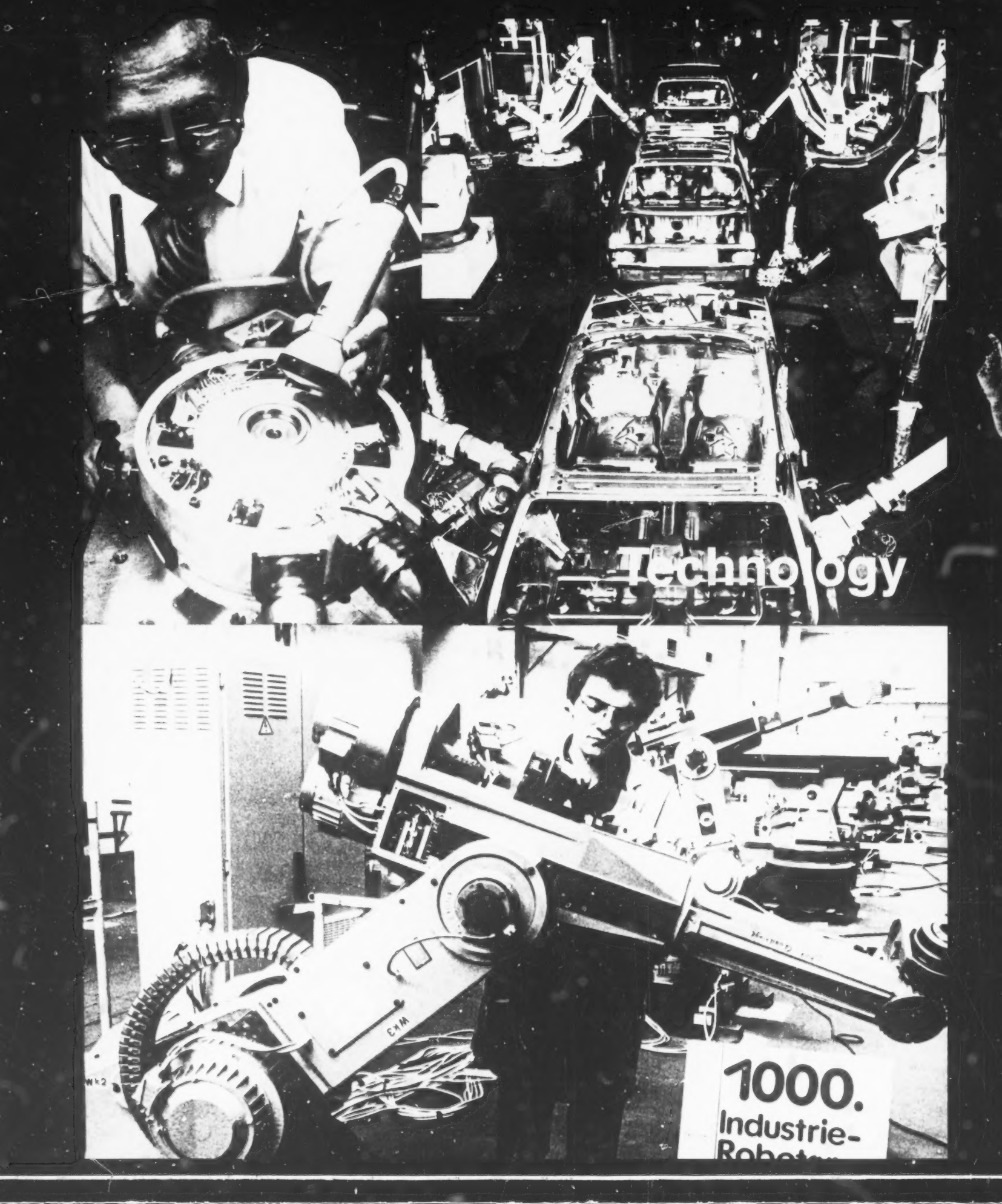

Technology
1000.
Industrie-

Robotics and the German Auto industry

by Dr. Carl H. Hahn
Chairman of the Management Board
Volkswagen AG

Technological progress will by no means come to an end. To the contrary, we should expect an increase. For the German auto industry, this fundamental criterion of our free market-oriented economy is of special importance. In light of the international composition of wage and benefit costs, technological progress must play an extraordinary role, in order to persevere on world markets. This is especially the case for industrial robots in their function of furthering automation as any other.

The application of this technology is founded upon all criteria which serve the considerations of planning and efficiency in investment decision making. For the projecting of large industrial assembly facilities, industrial robots offer in addition to well-known and now obvious processes, a further alternative to the realization of the mechanized production process.

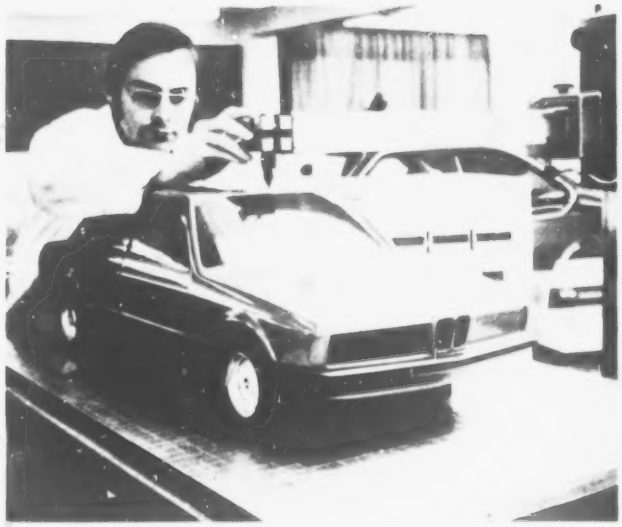
The appearance of industrial robots is characterized by their free programability. The robot has the capability of performing tasks in less time with greater accuracy. When assembly line processes are changed, the robot can be readily "reprogrammed." An automated assembly plant with industrial robots permits the workforce to be reapplied up to rates of 70 percent. In a high grade automation geared at performing one task, through which all details are executed toward one specific product, the reapplication of the workforce may be 15 percent at most.

In light of the international composition of wage and benefit costs, technological progress must play an extraordinary role, in order to persevere on world markets.

The work principle and flexibility of industrial robots allow their ready application wherever manual labor can be replaced or mechanization must be completed under a new point of view. Cost planning and amortization can follow from completely new perspectives. The economic advantage gained from the application of industrial robots is indisputable.

The mechanization in the automobile industry has been accomplished long ago by all firms. The highest degree of mechanization – from 40 to 90 percent – was attained in production sectors such as mechanical assembly, presswork and structural formation, aggregate assembly, and painting. Vehicle assembly is the one area which has resisted mechanization: this area employs 40 percent of the workforce.

In a few years, Volkswagen has through fast expansion erected many plants both in Germany and abroad. The firm, supported by economies of scale and a design policy based on continuity



Industrial robots allow progress in attaining quality to extend into the mechanization of assemblies and sub-assemblies.

and constancy, has established standards for automation in many branches. At both VW and Audi, we foresee inside a few years the possibility to mechanize further in these areas:

- Frame building: automatic addition of roof, sides, fenders, etc.
- Further mechanization of sealing work (PVC-spraying with robots) and coating (spraying of finish)
- Finished assembly: mechanization of subassembly parts (building in of aggregates, driving gear, wheels, panels, etc.)

In total, automation of VW Golf (Rabbit) production through these measures can increase by 55 to 65 percent.

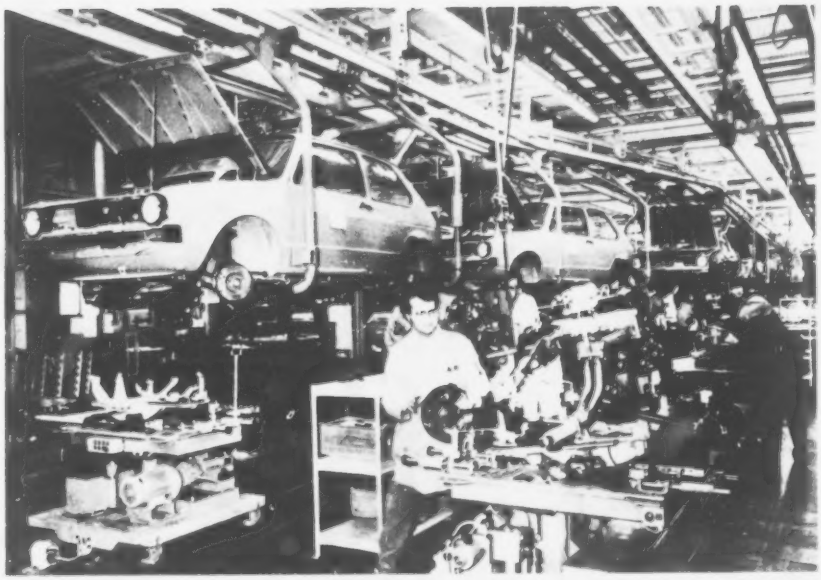
Industrial robots allow progress in attaining quality to extend into the mechanization of assemblies and sub-assemblies. The consequences for the consumer are distinctly positive; all our efforts are geared toward customer satisfaction. Industrial robots featuring measuring, testing, and steering capabilities increasingly rule out human error and material failure.

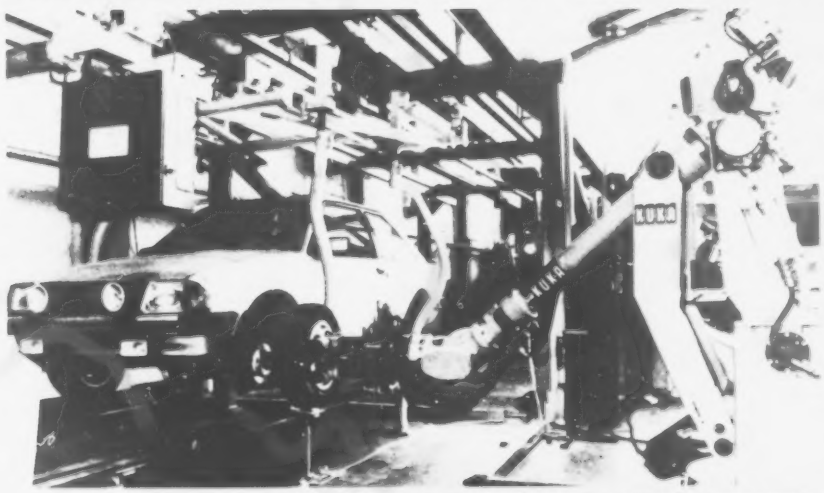
Volkswagen has brought out a new Golf (Rabbit) onto the market in the fall of 1983. In connection with the high daily production of 3,000 units, we now have the opportunity to introduce a new futuristic assembly technology. This is the outcome of many years' energetic and synchronized efforts in all our divisions.

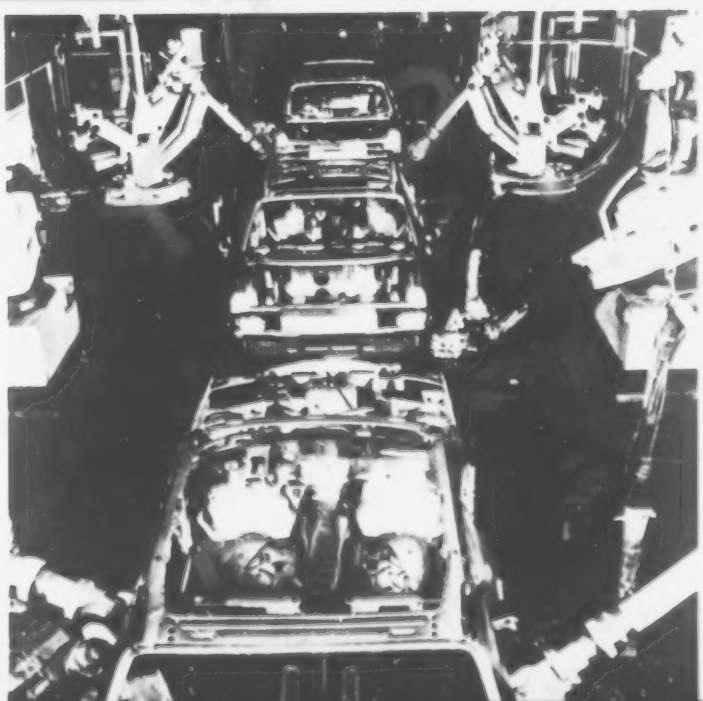
The goal orientation of this new assembly philosophy is not one-sided. It has been designed with several targets in mind: raising productivity, improving the human work environment, the increased identification of our workers with their tasks in an evermore complex industrial world, as well as – through and through the organization – the improvement of quality.

One more aspect is important: "Ghost factories", often these days the subject of heated political debate, will not, we estimate, come about in the automobile industry. In the new Golf assembly process, about 20 percent fewer workers are employed as compared with previous assembly technologies.

This new assembly has been designed with several targets in mind: raising productivity, improving the human work environment, as well as the improvement of quality.







Industrial production will be less and less characterized by the chaining of people to a machine, and more and more a matter of man mastering the machine.

Simultaneously the scope of work involved in establishing ever-higher standards of technology and comfort has grown. Design and construction of electrically-operated window controls, airconditioning, centralized safety locking, power steering, rear breaking, etc. now take up more labor than before. The new VW model design demonstrates the applicability of the old rule that held true at the beginning of industrialization: cost-saving measures and technological improvement of the product go hand in hand and are at the same time the source of progress. The auto maker who marches to the fore here will attain higher economies of scale. The workers must know that in the most modern auto assembly techniques the demands on skill and responsibility are growing.

Earlier industry studies started from the assumption that the installation of industrial robots would double every three years worldwide. Since then we have come to see the situation more critically and more realistically. Exact figures are difficult to arrive at. In the Federal Republic of Germany between 4,000 and 4,500 industrial robots are on the job, of which 80 percent are in the automobile industry. At Volkswagen more than 1,000 robots are employed worldwide; at the end of this decade the number will be 2,000, nearly all of them developed and produced by us.

Industrial robots change the human work environment. This is not at all controversial. Often the work of robots is work which humans are not very well suited to perform. It has long been a dream of mankind to be freed of such work. The development of the industrial robot has brought us a little closer to this goal. In the future, industrial production will be less and less characterized by the chaining of people to a machine, and more and more a matter of man mastering the machine. ■

DEUTSCHE ZUSAMMENFASSUNG

Der technische Fortschritt ist fuer die deutsche Automobilindustrie von besonderer Bedeutung, da sie der extrem hohen Lohn- und Sozialkosten wegen nur durch optimale Technologie am Weltmarkt bestehen kann.

Der Industrie-Roboter, durch seine freie Programmierbarkeit gekennzeichnet, ist in der Lage, eingegebene Arbeitsablaeufe mit zuverlaessiger Genauigkeit beliebig oft zu wiederholen und kann bei fertigungstechnischen Aenderungen jederzeit "umprogrammiert" werden. Hierdurch wird eine moegliche Wiederverwendung der Betriebsmittel bis zu 70% erreicht, im Gegensatz von max. 15% bei einer hochgradigen Einzweckmechanisierung.

In der Vergangenheit wurden die hoechsten Mechanisierungsgrade von 40 - 90% in den Bereichen

- mechanische Fertigung,
- Presswerk, Rohbau,
- Aggregatmontage,
- Lackiererei

erreicht. Dagegen blieb die Fertigungsmontage mit ca. 40% der Beschaeftigten weitgehend ohne Mechanisierung.

Bei VW und Audi sehen wir in den naechsten Jahren folgende Moeglichkeiten zur Mechanisierung:

- Rohbau, Anbau von Deckeln, Klappen, Kottluegeln etc.,
- Lackiererei, Abdichtungen und Auftragsarbeiten etc.,
- Fahrzeugmontage, Einbau von Aggregaten, Fahrwerk etc.,
- Aggregatmontage, z.B. Zylinderkopf, Oelpumpe etc.,

Insgesamt wird der Automatisierungsgrad beim Golf von heute ca. 55% auf etwa 65% steigen.

Zudem schliessen die an den Industrie-Roboter angeschlossenen Mess-, Pruef-, und Steuerungsvorrichtungen menschliche Unzulaenglichkeiten oder Materialfehler mehr und mehr aus. Diese Qualitaetsfortschritte einer mechanischen Fertigung wollen wir auch auf die Montagebereiche ausdehnen.

Ziel dieser neuen Fertigungsphilosophie ist unter anderem die Steigerung der Produktivitaet, eine menschengerechtere Gestaltung der Arbeitsplaetze, hoehere Identifikation der Mitarbeiter mit ihren Aufgaben und eine weitere Verbesserung der Qualitaet.

"Geisterfabriken" wird es nach unserer Einschaetzung im Automobilbau nicht geben. Zwar werden in der neuen Golf-Produktion vergleichbar 20% weniger Menschen beschaeftigt, doch haben gleichzeitig die Arbeitsumfaenge durch den Einbau von mehr Technik und Komfort zugenommen. So gehen kostensenkende Massnahmen und technische Hochwertigkeit Hand in Hand und sind damit die Quelle des Fortschritts.

In der Bundesrepublik Deutschland sind heute 4,000 bis 4,500 Industrie-Handhabungsautomaten eingesetzt, davon ca. 80% in der Automobilindustrie. Beim Volkswagenkonzern sind es weltweit mehr als 1,000, bis Ende dieses Jahrzehnts ca. 2,000, fast alle bei uns entwickelt und von uns produziert.

Industrie-Handhabungsautomaten befreien den Menschen oft von Taetigkeiten, die der Natur des Menschen wenig gemaess sind. Die industrielle Produktion wird kuenftig weniger von einer Verkettung des Menschen mit der Maschine gepraegt sein, vielmehr wird der Mensch zum Herr ueber die Maschine werden.

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MTU München excels in the development, production and technical support of aircraft propulsion systems: Gas turbines for helicopters, turboprop engines, jet engines for commercial and military aircraft.

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MTU is closely related to the beginning of motorization. Diesel, Daimler, Benz, and Maybach are the big names behind MTU. Daimler-Benz, Maybach, BMW, and M.A.N. are the technical and organizational roots of the MTU Group which was established in 1969.

Peculiarities

Through consistent engineering advancement and development of the high-performance diesel into an economical, ecology-oriented and powerful prime mover, MTU Friedrichshafen has set an example of modern technology usage.

Intensive reserarch and testing in the development of advanced jet engines, use of up-to-date production and quality control techniques, and handling of materials technology tasks are featured functions of MTU München.

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MOTOREN- UND TURBINEN-UNION GESELLSCHAFTEN
MÜNCHEN UND FRIEDRICHSHAFEN

Robotic Developments in the US Auto Industry

by Roger B. Smith
Chairman and
Chief Executive Officer
General Motors Corporation

It is one of the more familiar and encouraging lessons of history that extended periods of adversity are often followed by new eras of progress, initiated by bold and imaginative measures taken to speed up the process of recovery. Many of civilization's most spectacular accomplishments have been produced through successful efforts to overcome prolonged crises of one kind or another, not only in the industrial world, but in the scientific and social disciplines as well.

The U.S. auto industry, along with most of the rest of the American economy, is now emerging from four tough recession years. During this period, U.S. car sales reached their lowest level in two decades. Profit performance was poor, and in some instances absent altogether. Worst of all, hundreds of thousands of employees were put out of work.

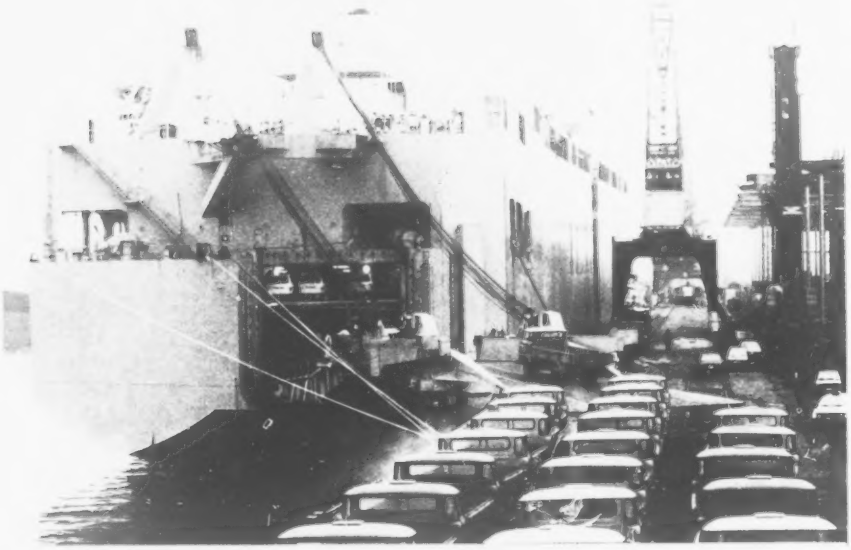
While the 1979-1982 recession was not as severe as the Great Depression of the early thirties, it certainly qualified as a time of great adversity. And it led the industry to the threshold of a new era, characterized in particular by the development and use of robotics to help overcome some of the most persistent problems of the past.

These problems, so debilitating to the automobile industry in the U.S. and Europe as well, are well known. They centered around the failure to maintain a rate of productivity growth comparable to that of the Japanese competition. Those competitors steadily improved their position for some time in productivity achievements and in the perception of product quality. While the application of robotic technology to productivity and quality problems will not by itself solve this problem, it is one essential in that solution – and one that plays an increasing importance in plans for General Motors products the world over.

That importance was clearly underlined in the early summer of 1982, when GM formed a robotics joint venture company with Fanuc Ltd. of Japan. GMF Robotics is standing proof of General Motors' belief that industrial robots and robotic systems must make a significant contribution to the recovery of the U.S. automobile industry in world markets, and of GM's determination to implement that belief by effectively robotizing its own plants.

We are thoroughly familiar with the robotic technology and computer sciences that will bring those demands within practical reach.

Robots, of course, are not new to General Motors. Some observers would doubtless be surprised, however, at the length and depth of GM's experience with this technology, in both its research and applied aspects. For example, the first working model of an industrial robot



was completed in 1960, and General Motors put one to use the following year in a plant in Trenton, New Jersey—unloading a die casting machine. In 1970, some twenty-six robots at the Chevrolet assembly plant in Lordstown, Ohio started doing spotwelding work. GM conceived and created the specifications for the robot Puma, one of the original programmable assembly robots, in 1975; and in the late 70s, GM developed some of the early sophisticated vision recognition systems: Keysight, Consight, Consort, and Gagesight.

Estimates for the robot population in the U.S. auto industry as a whole by 1990 range from 25,000 upward to twice that number.

In 1973, some of the robotic experts who had been gaining experience at the General Motors Technical Center were given the assignment of creating, designing, and developing the Numerically Controlled Painter—the industrialized world's most sophisticated robotic system, capable of replacing manual painters entirely in the painting booth of an automotive assembly plant. Nearly nine years later, the N/C Painter was brought to market, and in the last quarter of 1981, it began painting production line vehicles at a GMAD facility in Doraville, Georgia.

So, as General Motors faces the demands of the 1980s for increased productivity, better quality, manufacturing flexibility, and lower costs, the familiar ingredients of true competitiveness—we are thoroughly familiar with the robotic technology and computer sciences that will bring those demands within practical reach. During the 1980s we anticipate that the number of robots in use in GM plants worldwide will grow to around 14,000 from the less than 2,500 in use today. Of this number, it is expected that the major usage will be in assembly operations (36%), followed by 34% in material transfer, 19% in welding jobs, and 11% painting operations.

Estimates for the robot population in the U.S. auto industry as a whole by 1990 range from 25,000 upward to twice that number. On this basis, the U.S. robotics market could reach an annual sales level of more than $2 billion dollars by 1990.

As might be expected, the evolution of robotic usage in the auto industry roughly tracks the development of new manufacturing facilities, where it is easier and less expensive to install robotic systems and other high technology. At GM, for example, we've spent $24 billion dollars worldwide over the last three years on new plants, new tools, and new products, and we expect to spend another $6 billion dollars this year, to continue this program.

GM is making these new plants the most modern and advanced plants in the industry, taking manufacturing and assembly technologies as far as they can go, given the present state of the art. Not just in robotics alone, but in allied technologies like advanced computer controls, automatic framing systems, on-line dimensional techniques, non-contacting laser inspection devices, computer-directed optical welding systems, numerically controlled paint systems, and flexible manufacturing centers that provide new levels of precision and efficiency.

In the two plants which will turn out our new 1984 Buick Elektras, Cadillac de Villes, and Oldsmobile 98s, there are 139 robots and 98 automatic welders. Of the almost 5,000 spot welds, 98% are done without any human operation.

Robotization of functions like welding, material handling, painting, undercoating, and body work is also appearing in a number of GM plants in Europe – including facilities in Ruesselsheim, Federal Republic of Germany; Aspern near Vienna, Austria; in Ellesmere Port and Luton, England; and most particularly in the new plant in Zaragoza, Spain. Indeed, the Zaragoza plant – the assembly facility for the Opel Corsa and the Vauxhall Nova – utilizes 146 robotic machines.

Certainly robotics is a production technology whose time in the automotive industry has come. We all learned important lessons from our most recent interruption in economic progress: the most important one perhaps being that not only *could* GM manufacture cars and trucks more efficiently, but that we *had to*; and a part of the lesson was learning that *productivity* and *quality* were not adversarial outcomes, as had been long assumed, but were in fact complementary.

Our growing experience with flexible automation systems – of which the industrial robot is the most dramatic facet – has demonstrated that quality and productivity can, indeed, be a simultaneous achievement of new technologies.

While almost everyone appreciates that the evolution of robotics in the automobile industry is a necessary and desirable feature of plans to improve productivity, there are public concerns about the effect it will have on jobs – particularly the jobs of unskilled workers, which are the jobs most practical for robots to do. Some robots, like GMF's numerically controlled painter, can also perform skilled assignments, but relatively few such jobs are threatened by sophisticated, high-technology robots in the foreseeable future.

The concerns of the public and the apprehensions of workers regarding the effects of robotics development must be addressed by the auto industry – and, to a considerable extent, by the robotics industry also, which has a vested interest not only in the prosperity of companies it serves but also in the good will and cooperation of their employees. It is encouraging that these concerns have been taken up by U.S. auto manufacturers in a direct and practical way, though it must be said that much remains to be done before all of today's unemployed workers in our industry again have productive jobs.

At General Motors, where the most advanced technologies available are already taking their places in our new and renovated plants, there is a balancing commitment to the welfare of workers threatened or displaced by technological improvements. It is a fundamental principle at GM that people are our most important asset; and GM will continue to exert leadership in mitigating the people problems that may result from the use of robots in our plants.

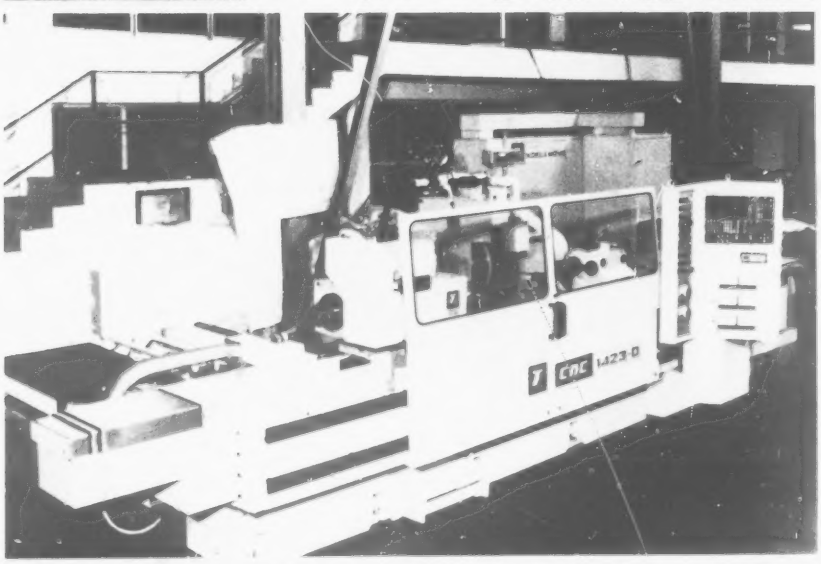
Our growing experience with flexible automation systems has demonstrated that quality and productivity can, indeed, be a simultaneous achievement of new technologies.

Basic to this commitment is a spirit of understanding and cooperation between management and labor. GM and the United Auto Workers have already reached an accord on the need for

a partnership effort – and on the fundamentals of many programs to help educate, train, and place employees affected by the introduction of new technology.

For example, our brand new, state-of-the-art assembly plants in Orion Township, Michigan, and Wentzville, Missouri are scheduled to start production at the end of this year; however, the training of employees to program, service, and maintain the robots in those plants began many months ago.

In 1982, General Motors and the UAW established a Joint Skill Development and Training Committee. This committee is designed to promote the training, retraining, and skills development of eligible hourly employees displaced by plant closings, new technologies and produc-



tion techniques, or shifts in consumer product preference.

In our own city of Detroit, Michigan, GM is working with the Greater Detroit Alliance of Business to help establish a new area-wide training program under a Job Training Partnership Act that seeks increased private sector involvement in government-funded job training programs.

These programs are only a representative sampling of the steps being taken by General Motors, often in cooperation with labor and government, to make the occupational adjustments to the robotic era as constructive as possible, exacting a minimum of worry and sacrifice from affected employees. Many other programs are underway; and General Motors will continue to search for effective ways to deal with the fears aroused among the workforce by a growing robotic presence.

It is important to note that the task of making such transitional programs effective entails more than General Motors, the labor unions, and directly involved government agencies. It must also involve our schools and universities, and the workers themselves, who must be willing to take advantage of the retraining and new educational opportunities which are offered.

As we have been entering the 1980s, I am pleased to see that we are finding progress in each of these areas. Governmental and educational institutions are increasingly aware of their importance to an economic and social transition marked by robotic expansion. The people at GMF Robotics, for example, are constantly getting calls and correspondence from schools and universities looking for assistance—robots, audio visual aids, documentation, and so on—for their robotic programs.

Our transitional generation may in fact be so dedicated to fitting itself and its progeny for high technology employment that there may eventually be a *shortage* of unskilled workers—as there is in Japan today.

We are also optimistic that employees *will* take advantage of training and educational opportunities. One of the truly rewarding traits of human nature is that virtually everyone wants to improve or succeed. Workers, like everybody else, want to be part of progress. This suggests that our transitional generation may in fact be so dedicated to fitting itself and its progeny for high technology employment that there may eventually be a *shortage* of unskilled workers—as there is in Japan today.

Nobody knows exactly how the robotic era

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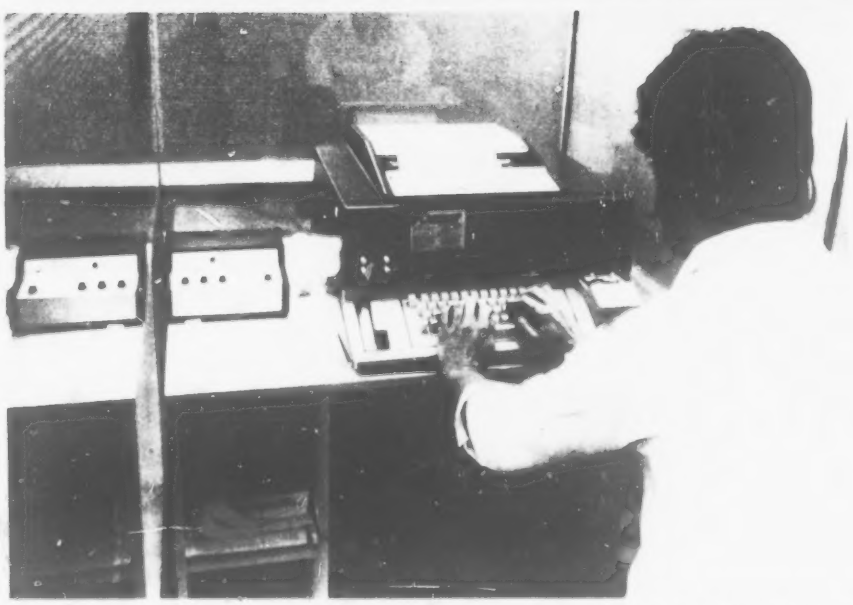

will evolve and interact with the competitive and employment developments going into the 1990s. But it is certain that the robotic era will require adjustments in all the industrialized countries of the world. While working our way through these adjustments poses challenges, they are adjustments which industries and employees have successfully made before as new technologies were introduced. In the United States it is absolutely necessary for the major components of our society—industry, government, labor, schools, individuals—to consciously work together to make the new era succeed as quickly and smoothly as possible.

General Motors will do all it can to make this happen. ■

DEUTSCHE ZUSAMMENFASSUNG

Es ist eine der wichtigsten Lehren der Geschichte, dass nach einer schlechten Zeit immer wieder eine Periode des Fortschritts kommt. Viele der spektakulaersten Erfolge des Menschen wurden nach ueberstandenen Krisen erfunden.

Die US Automobilindustrie und auch die restliche US Wirtschaft tauchen wieder aus vier schwierigen Rezessionsjahren auf. In dieser Zeit waren die schwaechsten Autoverkaeufe der letzten zwei Jahrzehnte zu verzeichnen, die Ertraege waren gering oder blieben in bestimmten Bereichen ganz aus. Am schlimmsten war jedoch die Entlassung von Hunderttausenden von Arbeitnehmern.

Obwohl diese Rezession nicht das Ausmass der 30er Jahre annahm, war es doch eine Notlage. Sie fuehrte die Industrie an die Schwelle einer neuen Aera, die durch die Entwicklung und den Gebrauch von Robotern zur Loesung einiger Vergangenheitsprobleme gekennzeichnet war. Diese Probleme waren in den USA und Europa gleichermassen bekannt und betrafen das Ausbleiben eines produktiven Wachstums, das dem der Japaner vergleichbar war. Dieser Konkurrent konnte staendig seine produktive Leistung und die Qualitaet seiner Produkte verbessern. Obwohl die Industrieroboter die Produktivitaets- und Qualitaetsprobleme nicht alleine loesen koennen, fuehrt deren Einsatz zu einer essentiellen Loesung. Jedenfalls spielen sie eine zunehmende Rolle bei den weltweiten Planungen von GM.

Diese Bedeutung wurde im Sommer 1982 deutlich, als GM und Fanuc Ltd. of Japan ein Gemeinschaftsunternehmen fuer Roboter gruendeten (GMF). GM glaubt an den bedeutenden Beitrag fuer die Automobilindustrie, der von Robotern und automatisierten Systemen ausgehen kann. Dabei sind Roboter bei GM nichts Neues. Seit 1962 nahm die Anzahl dieser Anlagen staendig zu.

GM sieht sich in den 80er Jahren konfrontiert mit den Forderungen nach einer steigenden Produktivitaet, besserer Qualitaet, groesserer Flexibilitaet und geringeren Kosten — den vertrauten Bestandteilen einer echten Konkurrenzfaehigkeit. Dabei erwarten wir, dass die weltweite Anzahl der Roboter bei GM von heute 2.500 auf 14.000 ansteigt und die Hauptanwendungsgebiete die Montage- und Befoerderungsbereiche, das Punktschweissen und die Lackiererei werden.

Man kann erwarten, dass der Fortschritt in der Anwendung von Robotern mitverantwortlich fuer die Entwicklung neuer Herstellungsmoeglichkeiten sein wird, bei denen es einfacher und billiger ist, Roboter und andere hochtechnische Systeme miteinzubeziehen. Bei GM haben wir weltweit $ 24 Mrd. in den letzten drei Jahren fuer Fertigungsstrassen, neue Werkzeuge und neue Artikel ausgegeben. In diesem Jahr sollen weitere $ 6 Mrd. fuer dieses Programm ausgegeben werden.

In den beiden Fertigungsstrassen, die den 1984 Buick Electras, Cadillac de Ville und Oldsmobile 98's bauen, sind 139 Roboter und 98 automatische Schweissgeraete untergebracht. Von fast 5.000 Punktschweisstaetigkeiten werden 98% ohne menschlichen Handgriff ausgefuehrt.

Sicherlich ist die Robotertechnik eine Produktionstechnologie, deren Zeit in der Automobilindustrie kommen musste. Wir alle erhielten wichtige Lektionen von der ernsten Unterbrechung des wirtschaftlichen Fortschritts; die wichtigste wird sein, dass GM seine Autos und LKW's nicht nur effizienter bauen konnte, sondern musste. Ein anderer Teil dieser Lektion ist die Erkenntnis, dass Produktivitaet und Qualitaet nicht gegeneinander arbeiten, sondern miteinander wirken koennen.

Unsere wachsende Erfahrung mit flexiblen Automationssystemen — bei denen der Roboter die groesste Bedeutung hat — zeigt, dass Qualitaet und Produktivitaet tatsaechlich gleichzeitig als neue Errungenschaften wirken koennen.

Neben diesem Fortschritt in der Automobilindustrie besteht ein oeffentliches Interesse an den Auswirkungen auf die Arbeitsplaetze — speziell fuer Arbeitsplaetze der ungelernten Arbeiter, deren Taetigkeiten die Roboter meistens erledigen. Dieses Anliegen der Oeffentlichkeit und der Arbeitnehmerschaft sollte die Automobil- und Robotorindustrie ernst nehmen und den guten Willen zur Kooperation mit den Arbeitnehmern zeigen. Es ist gut, dass diese Probleme direkt von der Automobilindustrie aufgegriffen wurden, jedoch muss noch einiges getan werden, bis die staendig hohen Arbeitslosen der Industrie wieder einen produktiven Job haben.

Bei General Motors, wo der modernste Technologien in den renovierten Fertigungsstrassen eingebaut sind, haben wir eine ausgewogene Verpflichtung fuer das Wohl der Arbeiter, deren Arbeitsplaetze bedroht sind oder durch technologische Verbesserungen verlegt werden muessen. Es ist einer der bedeutendsten Prinzipien bei GM, dass der Mensch unsere wichtigste Stuetze ist, und GM wird sich auch weiterhin um diesbezueglich moeglichst geringe Auswirkungen auf die Arbeitnehmerschaft bemuehen. Die Voraussetzung ist die Verstaendigung und Kooperation zwischen Management und Arbeitnehmerschaft. GM und die "United Auto Workers" haben eine Uebereinstimmung fuer partnerschaftliche Bemuehungen erreicht, deren Grundlage viele Programme zur Einfuehrung und Einschulung neuer Technologien ist.

Solche Programme sind nur ein Beispiel fuer die Zusammenarbeit. Die berufliche Anpassung an die Robotergera soll so konstruktiv, die Sorgen und Opfer der betroffenen Arbeitnehmer so gering wie moeglich gestaltet werden.

Nach diesen Uebergangsprogrammen von GM und den Gewerkschaften ist es notwendig, dass weitere Schritte von der Regierung unternommen werden. Schulen und Universitaeten muessen verbessert werden und die Arbeitnehmer muessen gewillt sein, die Vorteile einer Umschulung und neue Schulungsmoeglichkeiten in Anspruch zu nehmen. Es freut mich, dass wir auf diesem Gebiet Fortschritte machen. Regierungs- und Erziehungsinstitutionen bekommen ein zunehmendes Bewusstsein fuer die Bedeutung der wirtschaftlichen und sozialen Uebergangsphase, in der wir uns durch die Erweiterung der Roboter- und Computertechnik befinden.

Wir sind optimistisch, dass die Arbeitnehmer die angebotenen Moeglichkeiten in Anspruch nehmen. Einer der wesentlichen Merkmale des Menschen ist, dass sich praktisch jeder in seiner Position verbessern oder Erfolg haben will. Arbeiter moechten wie jeder andere auch ein Teil des Fortschritts sein. Dabei kann es auch passieren, dass man so grosse Anstrengungen unternimmt, um betrieblich versierte Arbeitskraefte zu bekommen, dass es zu einem Mangel an unausgebildeten Arbeitern wie in Japan kommt.

Niemand weiss, wie sich diese Aera der Roboter entwickeln wird und welchen Einfluss sie auf die gegenseitige Konkurrenzfaehigkeit und die Arbeitnehmerentwicklungen hat. Fuer die USA ist es notwendig, dass die Hauptbestandteile unserer Gesellschaft — Industrie, Regierung, Arbeiterschaft, Schulen und Einzelpersonen — bewusst zusammenarbeiten, damit diese neue Aera erfolgreich wird, wesentlich und reibungslos wie moeglich.

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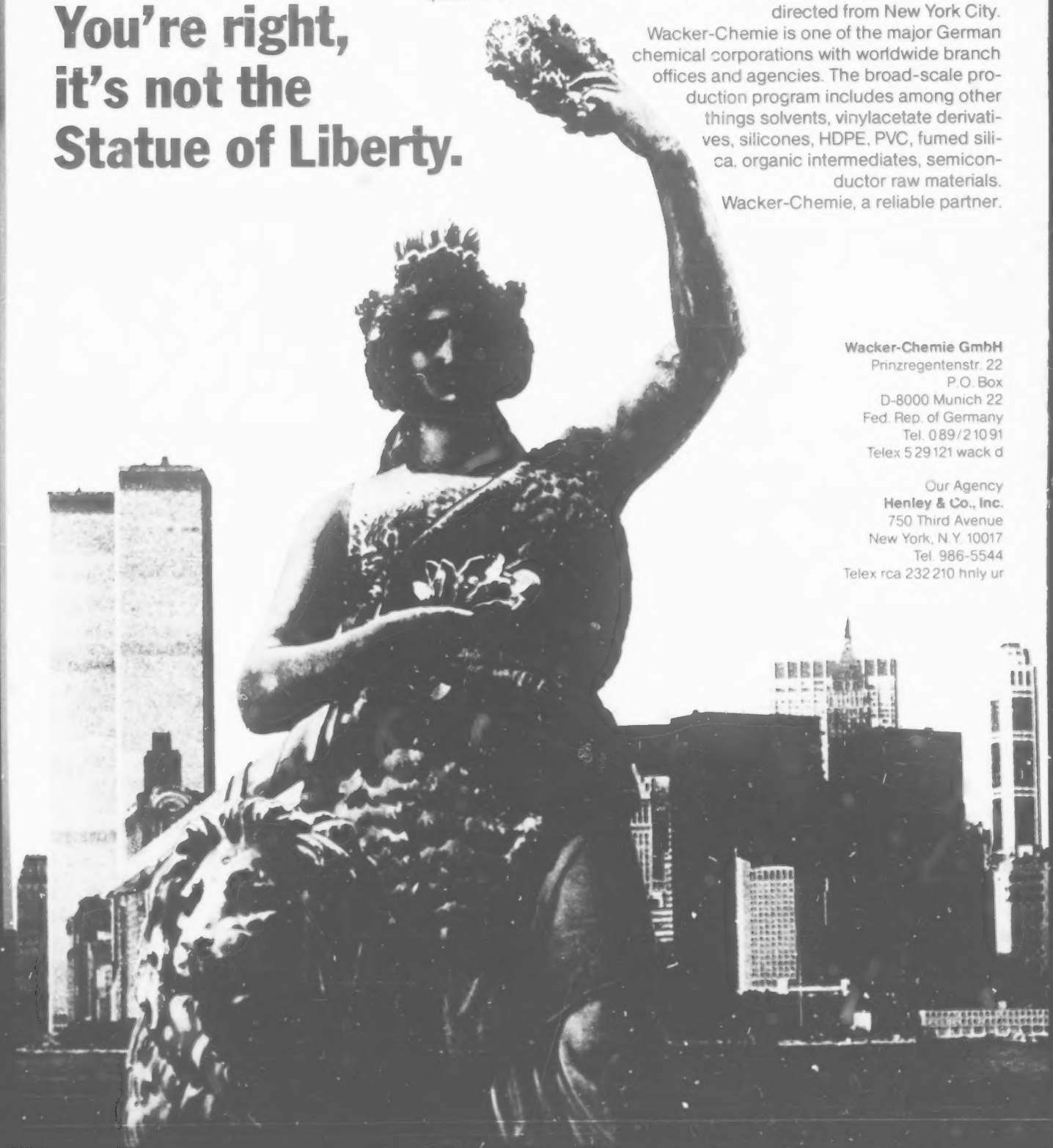

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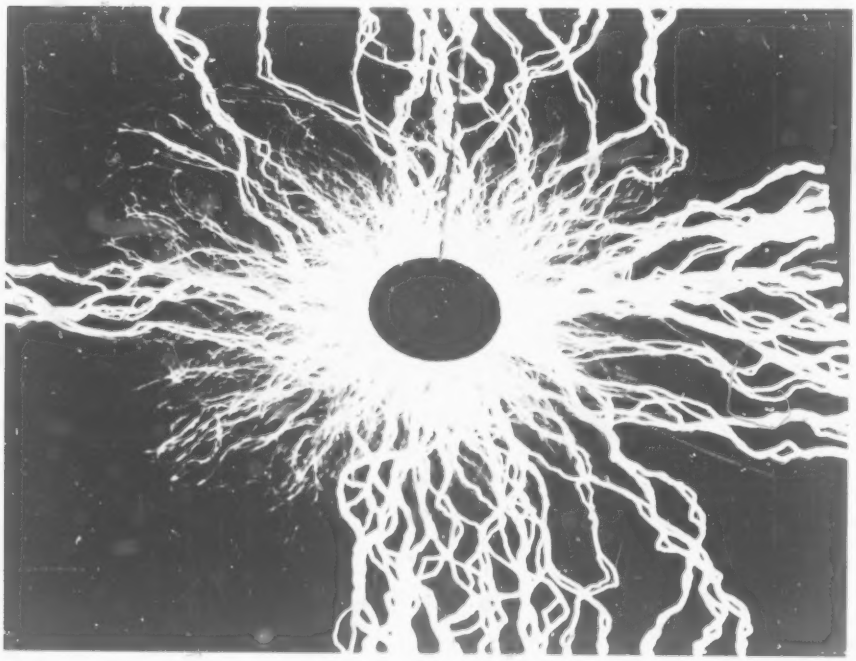


German Technology Policy: A New Orientation

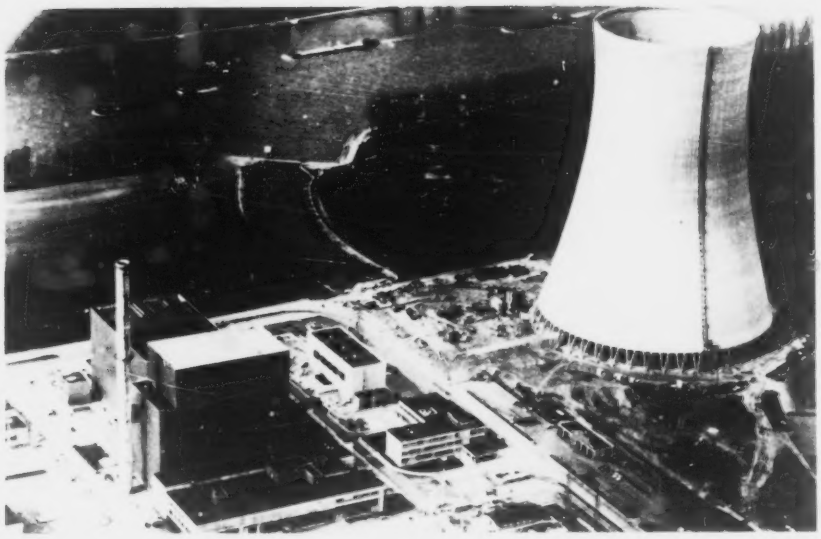
by Dr. Heinz Riesenhuber
Minister for Technology
Federal Republic of Germany

The reorientation of the German research and development policy is a result of consistently reminding ourselves again of the principles of free enterprise, characterized by a distinct separation between the areas of responsibility of the economy and the government. In the sphere of industrial research, the Government of the Federal Republic of Germany will accentuate its subsidiary role – more so than in recent past years. It is the objective – by further developing a skeletal framework – to create free areas for entrepreneurial initiative, and to strengthen the confidence of the economy in a stable economic development. If the government restricts itself to undertaking such research activities which cannot be accomplished by the economy under its own steam, we achieve a free environment conducive to innovations.

The existing promotional programs of the Federal Minister for Research and Technology will be scrutinized and assessed particularly under the aspect of their innovative effect; they will primarily be expanded in such areas of growth as material research, manufacturing technology, telecommunication and communication engineering, and biotechnology. The number of directly promoted industrial projects will be clearly reduced. These will be concentrated on particularly extensive, risky, and long-range projects in the areas of the key technologies, and the public responsibilities.

The following data will serve to illustrate the existing problem with respect to the promotion of research in the Federal Republic of Germany: within the past ten years, the overall expenditures made by economy and government for research and development have more than tripled. In 1981, this amounted to about DM 41 billion. Simultaneously, the number of persons employed in research and development has increased by about 50 per cent to approximately 380,000 persons while, within the university sphere, it has even climbed by over 100 per cent to about 75,000 persons. In relation to the gross national product, 2.7 per cent is currently being spent for research and development. In drawing a comparison on an international level, this puts us in first place while, considering the amount of the overall expenditures, we occupy third place after the United States and Japan. That we nevertheless do not hold a top position in certain technological areas can not be attributed

It is not the amount of the funds, but the efficiency of their employment for research and development which must thus be increased.



to a lack of funds. It is not the amount of the funds, but the efficiency of their employment for research and development which must thus be increased.

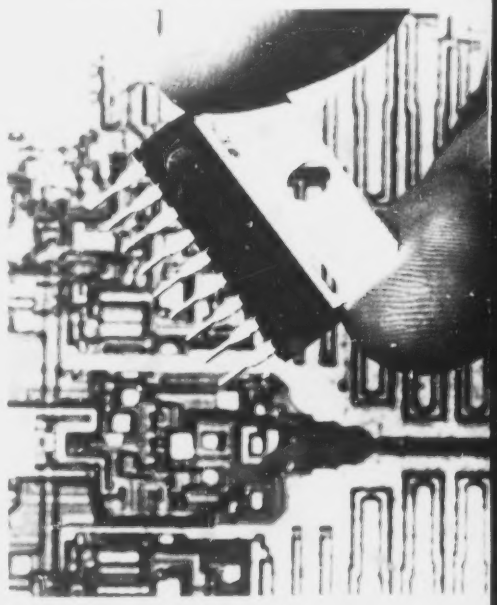
The following five areas will especially be affected by the change in research policy:

(1) The *basic environment* for research and development in the areas of science and economy must be improved. A climate must be created within the general public which will provide favorable preconditions for making use of existing creative abilities, bring about a positive assessment of the contributions by research and development toward economic progress and social security, reduce fears occasioned by technological developments, and eliminate any superfluous burden created by red tape. It must become clearly apparent that, while research opens up the environment for the individual and can make a decisive contribution toward coping with present and future problems, this requires for itself a high degree of idealistic and financial freedom.

(2) During the course of the next five to ten years, the *young talent in the area of science and technology* will be confronted with a particularly difficult demographic and structural "bottleneck". Supplementary to the promotional efforts involving young talent undertaken on the part of various organizations and the Laender, the Government of the Federal Republic of Germany will promote young talent particularly in those areas where, in view of existing opportunities for economic growth, there will be an increased need for personnel trained and possessing the necessary qualifications in the areas of science and technology. What is being analyzed in this respect are models of an improved cooperation with industry, as well as indirect promotional measures which are designed to provide incentives for hiring additional research and development personnel in economy and offer improved chances for young talent also in the area of major research facilities.

(3) Until now, *basic scientific research* has constituted, it is true, a large and altogether sufficient portion of the overall promotional efforts on the part of the Government regarding research and development. By providing the research facilities with suitable equipment, by cutting down on impediments presented by red tape, and by providing performance-promoting incentives, the attempt must be made to restimulate a competition of ideas, and to offer a challenge to achieve maximum performance.

(4) The government has an immediate responsibility for *representative tasks* with respect to making provisions for our existence, and for the future, such as in the areas of environmental and health research, inasmuch as the respective strength of the market is



insufficient, or since it is not the responsibility of the market to develop those procedures or products which are in the interest of the public.

The analysis of the current prevailing environmental strains, as well as the development of measures which produce a rapid and permanent effect to reduce these strains constitute such a challenge for research policy.

On the basis of an action program in the area of research policy which will bring

together all parties involved on a national and international level, the Government of the Federal Republic of Germany will initiate measures in order to combat the threat of our forests by "acid rain" with the objective of speedily reducing the strain on this important ecological system. Representative responsibilities in the area of research policy for which the government is directly responsible confront us, for instance, in maritime and polar research, in interdisciplinary climatological research, as well as in health research.

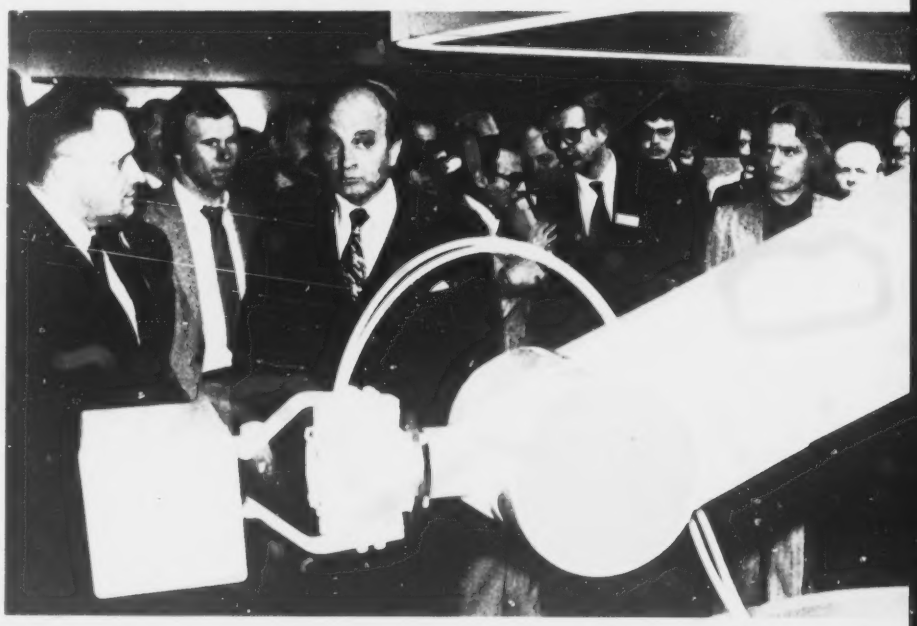
(5) Finally, we should mention the sphere of industrial research and development. This area is mainly concerned with converting results developed in research facilities, universities, and particularly by industry itself into innovative products and procedures which will then have to prove their worth on the market.

The government can neither prescribe innovations, nor define their content; it is its responsibility to stimulate and facilitate this process, to eliminate or reduce obstacles. This explains the intention of the Government of the Federal Republic of Germany to reduce direct project promotion in industry, and to attach greater importance to indirect measures.

The advantages of indirect measures for the economy, namely

- utilization of the search function of the market;
- strengthening of the proper forces of the economy;
- reduction of the danger of misdirection by the government; and
- cutback on red-tape mechanisms,

will have a positive effect on the preparedness on the part of the economy to bring about innovations.

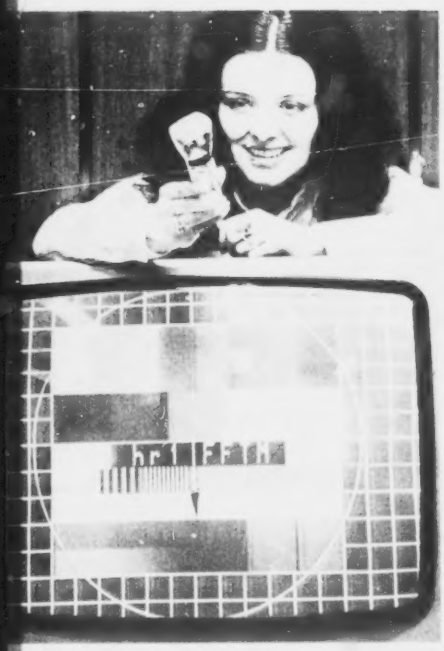


The Federal Minister for Research and Technology is not in a position to create a market for such venture capital.

The following illustrations highlight a few new measures:

(a) An obstacle to innovation can consist in insufficient staffing in the research and development sphere of the enterprises. This applies particularly to small and medium-size companies for which hiring an additional staff member constitutes, in many instances, a considerable cost risk. To compensate for this deficit, the program "Subsidies toward expenditures for personnel employed in research and development" was established in 1978, within the scope of which small and medium-size enterprises may be reimbursed by the Federal Minister of Economics in the amount of 40% (forty per cent) of their gross wages paid in the area of research and development as a subsidy, with the annual ceiling being DM 120,000.

In order to supplement this widely accepted approach, deliberations have been underway within the Federal Ministry for Research and Technology with respect to a measure envisaging the promotion of research and development personnel which does not proceed from the actual number, but rather from the increase in the research and development personnel. In this manner, it is intended that funds set aside for promotional purposes be made available to



enterprises oriented toward innovation and possessing a potential for growth, with the cost risks arising as a result of the expansion of the research and development area thus being at least partially covered.

(b) Another deficit exists, in my view, in the investment area. The reduced investment activity on the part of the German enterprises during the course of the past few years has particularly been reflected in the research and development area. In order to provide incentives in this respect, the Government of the Federal Republic of Germany has made it possible, to take special write-offs for research and development in the amount of 40% (forty per cent) of the purchase price or manufacturing cost in the case of tangible business assets, and of up to 15% (fifteen per cent) in the case of intangible business assets.

As a result of the interaction with the investment bonus, I would expect that this will generate a noticeable impulse toward innovative investments, particularly inasmuch as – in view of the fact that approximately DM 300 million annually are lost in taxes due to these special write-offs – a considerable amount of money would be available for this purpose. This desired effect is, in addition, assisted by further tax measures laid down in the Supplement to the Appropriations Act which are designed to facilitate investments, namely, an additional write-off possibility in the amount of 10% (ten per cent) of the purchase price or manufacturing cost of new tangible business assets of small and medium-size enterprises, and, above all, the reduction of the assessment of the operating assets in determining the property tax.

(c) It is a well-known fact that the attempt to found innovative enterprises often meets with considerable obstacles. In particular, what is not available is a functional market for venture capital which is different from, for instance, the United States or Great Britain. Traditionally, banks grant loans only if appropriate collateral exists, and this is hardly ever available at the time when an enterprise is founded. Thus, a considerable number of research and development results is not, or too late, converted into innovations.

The Federal Minister for Research and Technology is not, however, in a position – and particularly not within a short period of time – to create a market for such venture capital. It is for this reason that the Federal Minister for Research and Technology has developed a "test model for technology-oriented enterprises start-ups" which is scheduled to be put into operation next year. With respect to the different stages of starting up an enterprise, the following measures have been planned:

- counseling assistance for those individuals founding an enterprise;
- subsidies toward the development costs of the founding projects up to the prototype;
- assumption of a portion of the risk, on the part of the Federal Minister for Research and Technology, with respect to bank loans designated for financing the manufacturing facilities, as well as the introduction on the market.

The overall amount of funds available for this purpose is DM 100 million which will presumably be insufficient to meet the expected requirement. It is not the intention to create a subsidy on a permanent basis, but rather to afford an opportunity to gain experience, and to stimulate those parties involved in this loan transaction to initiate their own activities.

(d) In dealing with the subject of new technology-oriented enterprises, another significant aspect of the policy regarding innovations is touched upon: the technology transfer. Intelligent and creative activities do not benefit a national economy as long as these are not converted into innovations. Due to the fact, however, that only a small number of enterprises has the capability of accomplishing all of the phases of an innovation from the fundamental research up to manufacturing the innovative product of their own accord, an efficient technology

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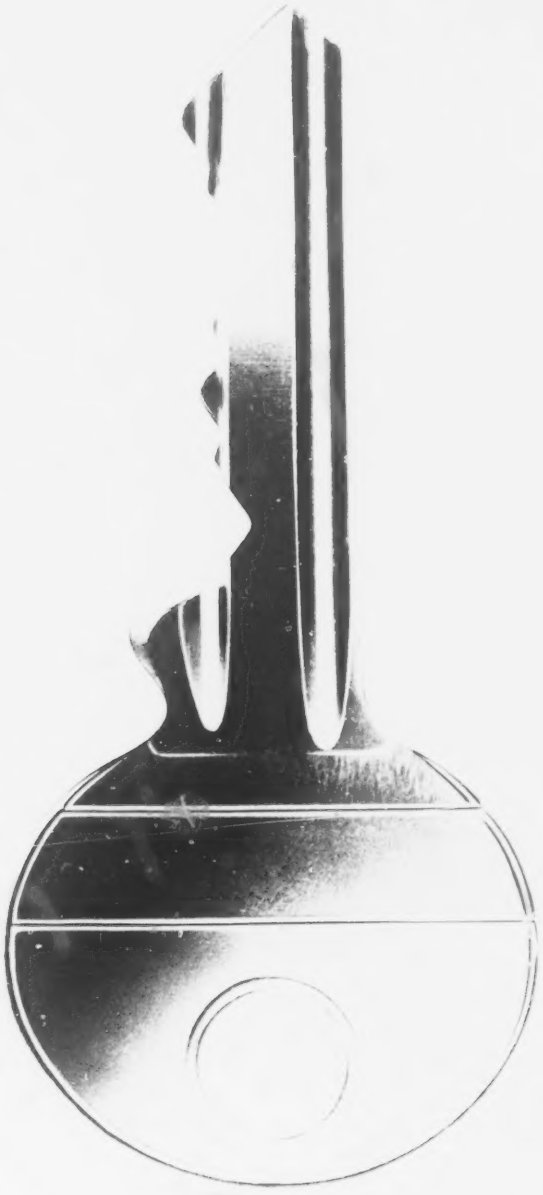

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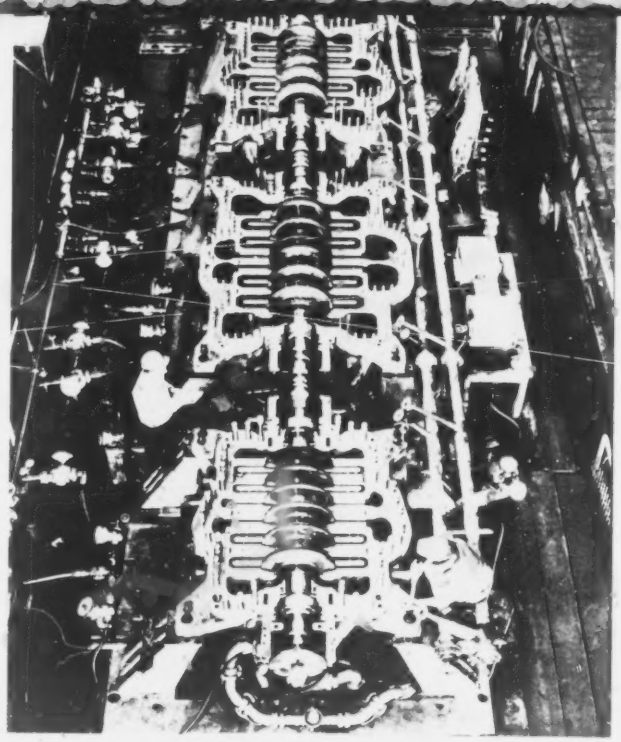
transfer is essential for innovations. It is intended, for this reason, to expand the promotional program "external contractual research" as early as next year. Within the scope of this program, small and medium-size enterprises without a sufficient research and development capacity of their own will be supported by receiving a subsidy in those instances where they award research and development contracts. Instead of the amount of DM 15 million which had been earmarked for this purpose, a total of DM 40 million will be available for this purpose in the year of 1984 alone.

(e) It appears to me, by the way, that the most efficient technology transfer can be achieved through a meeting of minds. Naturally, the difficulties encountered in this respect are greatest. This in turn justifies the two new measures conceived in the Federal Ministry for Research and Technology which are scheduled to become effective as early as next year.



The freedom of, and direct responsibility for their own decisions must be left in the hands of the enterprises.

On the one hand, it is desirable to transfer the scientific-technological knowledge accumulated in major research facilities financed by the government to industry; with this objective in mind, promotional measures are undertaken to facilitate the change-over of scientists from major research facilities to industry either for a limited period of time, or on a permanent basis.

On the other hand, it is planned to offer "young talent" scientists additional positions in research facilities, and, after they have then acquired specialized knowledge in a certain area there, to subsequently appoint them to jobs in industry.

(f) What should finally be mentioned is the indirect-specific promotion which apparently is already successfully being realized within the scope of the special program "Application of Microelectronics" that is already underway. Unlike the case of the indirect promotional measures, this approach is restricted to certain technologies, and to the last phase of the innovation process, i.e. the product development. This is a type of project promotion which has greatly been simplified from an administrative standpoint, and with respect to which an analysis of the individual project by content is waived. This tool is particularly suited in those instances where it is intended to convert a basic innovation, on as large a scale as possible, into individual projects and procedures. Appropriate acceleration effects can therefore be expected.

Within a system of free enterprise, the freedom of, and direct responsibility for their own decisions must be left in the hands of the enterprises. This also applies to the sphere of research and development as an integral part of the policy pursued by the enterprises. The indirect promotional measures as illustrated have a particularly advantageous effect on strengthening the innovation potential within the enterprise because they leave the decision to the enterprises about which technologies they elect to concentrate their research and development efforts. ■

DEUTSCHE ZUSAMMENFASSUNG

Die Neuorientierung der deutschen Forschungspolitik beruht auf der konsequenten Rueckbesinnung auf die marktwirtschaftlichen Grundsaetze und ist durch eine deutliche Trennung der Aufgabengebiete von

Wirtschaft und Staat gekennzeichnet. Ziel ist es, durch die Ausgestaltung allgemeiner Rahmenbedingungen vermehrt Freiraeume fuer unternehmerische Eigeninitiativen zu schaffen und das Vertrauen der Wirtschaft in eine stabile wirtschaftliche Entwicklung zu staerken.

Bestehende Foerderungsprogramme des BMFT werden nach ihrer Innovationswirkung geprueft und vorrangig in den Wachstumsbereichen (wie z.B. Kommunikations- und Nachrichtentechnik) durch indirekte Instrumente ausgebaut. Die Zahl der direkt gefoerderten Industrieprojekte wird deutlich reduziert werden. Das Problem der Forschungsfoerderung ist folgendes: Die Ausgaben fuer Forschung und Entwicklung stiegen in den letzten 10 Jahren um das dreifache, die Beschaeftigungszahlen um rd. 50%. Im internationalen Vergleich stehen wir mit Ausgaben von 2.7% des Bruttosozialprodukts fuer Forschung und Entwicklung an erster Stelle, bezueglich der absoluten Ausgaben nach USA und Japan an dritter Stelle. Das wir trotzdem in bestimmten technologischen Bereichen keine Spitzenstellung einnehmen liegt nicht an den Mitteln, sondern an der Effizienz des Einsatzes.

In den folgenden fuenf Bereichen wird der Wandel in der Forschungspolitik besonderen Ausdruck finden.

1.) Die *Rahmenbedingungen* fuer Forschung und Entwicklung in Wissenschaft und Wirtschaft muessen verbessert werden. In der Oeffentlichkeit muss ein besseres Klima geschaffen werden, das die durch technologische Entwicklungen verursachten Aengste abbaut. Es muss deutlich werden, dass die Forschung Freiraeume fuer den Menschen aufschliesst und bei der Bewaeltigung der Gegenwarts- und Zukunftsprobleme helfen kann, wenn sie selbst ein hohes Mass an ideeler und materieller Freiheit hat.

2.) Der *wissenschaftlich-technische Nachwuchs* steht in den naechsten 5 - 10 Jahren vor einer besonders schwierigen Engpasssituation. Die Bundesregierung will den Nachwuchs vor allem in den Bereichen der Industrie und Grossforschungseinrichtungen indirekt foerdern, wo wirtschaftliche Wachstumschancen einen verstaerkten Bedarf an qualifiziert ausgebildeten Personal erwarten lassen.

3.) Die *Grundlagenforschung* hat zwar einen starken und ausreichenden Anteil der gesamten staatlichen Foerderung. Doch muss durch leistungsfoerdernde Anreize versucht werden, den Wettbewerb der neuen Ideen neu zu stimmulieren und zu Spitzenleistungen herauszufordern.

4.) Der Staat hat eine unmittelbare Verantwortung fuer *Querschnittsaufgaben* der Daseins- und Zukunftsvorsorge, wie z.B. in der Umwelt- und Gesundheitsforschung. Die Analyse der Umweltbelastungen und die Entwicklung rascher und wirksamer Massnahmen stellen eine solche Herausforderung dar. Auf der Grundlage eines forschungspolitischen Aktionsprogramms wird die Bundesregierung gegen die Bedrohung unserer Waelder durch den 'Sauren Regen' Massnahmen ergreifen.

5.) Im Bereich der industriellen FuE geht es vor allem darum, die erarbeiteten Forschungsergebnisse schnell in innovative Produkte und Verfahren umzusetzen. Der Staat kann Innovationen nicht verordnen, sondern diese Prozesse nur anregen und erleichtern. Daraus ergibt sich die Absicht der Bundesregierung die direkte Projektfoerderung abzubauen und indirekten Massnahmen groesseres Gewicht zu geben. Die Vorteile sind:

— Ausnutzung der Suchfunktionen des Marktes
— Staerkung der Eigenkraft des Marktes
— Verringerung der Gefahr staatlicher Fehllenkung
— Abbau buerokratischer Mechanismen

Im folgenden sollen schlaglichtartig einige neue Massnahmen der Bundesregierung erlaeutert werden:

a.) Ein Innovationshindernis kann in einer unzureichenden personellen Ausstattung vor allem bei kleinen— und mittleren Betrieben liegen. Seit 1978 ermoeglicht ein Zuschussprogramm speziell diesen Unternehmen 40% der Bruttoloehne im FuE Bereich, max aber 120,000.00 DM jaehrlich durch das BMWi zu bekommen. Diesen Ansatz moechte man moeglicherweise dahingehend aendern, dass nicht der Bestand, sondern der Zuwachs des FuE Personals gefoerdert wird. Damit gingen die Mittel mehr an innovationsorientierte und wachstumstraechtige Unternehmen.

b.) Ein weiteres Defizit ist im Investitions Bereich zu sehen. Um Anreize fuer eine Investitionstaetigkeit im FuE Bereich zu geben, hat die Bundesregierung Sonderabschreibungen von 40% der AHK bei beweglichen und 15% bei unbeweglichen Wirtschaftsguetern ermoeglicht. Zusammen mit der Investitionszulage laesst dies auf einen spuerbaren Impuls hoffen. Weitere Unterstuetzung erhalten kleine und mittlere Betriebe durch eine zusaetzliche Abschreibungsmoeglichkeit von 10% der AHK auf neue bewegliche Anlagegueter und vor allem durch eine Verringerung des Ansatzes von Betriebsvermoegen bei der Ermittlung der Vermoegenssteuer.

c.) Anders als in den USA oder Grossbritannien fehlt es in der Bundesrepublik an einem funktionierenden Risikokapitalmarkt. Dadurch wird eine erhebliche Zahl von Forschungs- und Entwicklungsergebnissen nicht oder zu spaet in Innovationen umgesetzt. Deswegen hat der BMFT einen Modellversuch entwickelt, der fuer die unterschiedlichen Phasen der Unternehmensgruendung folgende Massnahmen vorsieht:

— Beratungshilfen fuer Gruender
— Zuwendungen zu Entwicklungskosten bis hin zum Prototyp
— Risikobeteiligung des BMFT fuer Bankkredite. Zur Finanzierung der Produktionseinrichtung und Markteinfuehrung.

Dieses Modell kann keine dauerhafte Subvention darstellen. Vielmehr sollen Erfahrungen gesammelt und die am Kreditgeschaeft Beteiligten zu eigenen Aktivitaeten angeregt werden.

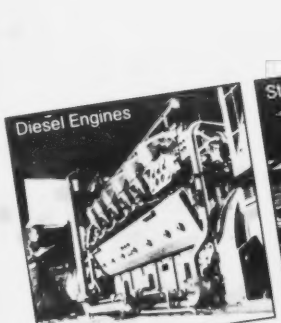
d.) Ein weiterer wichtiger Punkt der Innovationspolitik ist der Technologie-Transfer, da nur wenige Unternehmen faehig sind, alle Phasen von der Grundlagenforschung bis zur Herstellung des Produkts selbst zu vollziehen. Durch das Foerderungsprogramm "Externe Vertragsforschung" sollen kleine und mittlere Betriebe im kommenden Jahr durch einen Zuschuss bei der Vergabe von FuE Auftraegen unterstuetzt werden. Statt urspruenglich 15 Mio stehen 1984 nunmehr 40 Mio DM zur Verfuegung.

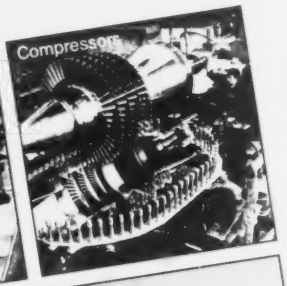
e.) Der wichtigste Technologie-Transfer scheint im uebrigen der durch die "Koepfe" zu sein. Aus diesem Zweck wird der Uebergang von Wissenschaftlern aus den staatlich finanzierten Grossforschungseinrichtungen in die Industrie gefoerdert. Auch sollen junge Nachwuchswissenschaftler zusaetzlich in Forschungseinrichtungen eingestellt und, nachdem sie Spezialkenntnisse auf bestimmten Gebieten erworben haben, von der Industrie in einem Arbeitsverhaeltnis uebernommen werden.

f.) Schliesslich ist noch der Ansatz der indirekt-spezifischen Foerderung zu nennen, wo nur bestimmte Technologien und die Produktentwicklung unterstuetzt werden. Die Projektfoerderung ist administrativ stark vereinfacht und verzichtet auf eine inhaltliche Pruefung der Produkte. Anwendungsgebiet ist heute die Mikroelektronik und im kommenden Jahr auch die Fertigungstechnik, da hier eine Basisinnovation in grossem Umfang umgesetzt werden kann.

Eine marktwirtschaftliche Ordnung muss den Unternehmen Freiheit und Eigenverantwortung fuer ihre Entscheidungen ueberlassen. Da die Entscheidung ueber ihre FuE Taetigkeit auch weiterhin bei den Unternehmen bleibt, sind die dargestellten indirekten Foerderungsmassnahmen besonders vorteilhaft.

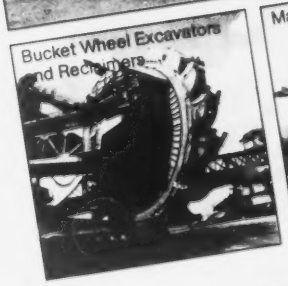
Advanced Technology and Reliability

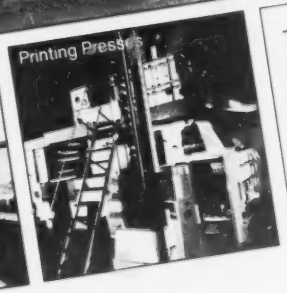




Design, Engineering, Manufacture, Supply and Erection of Mechanical Equipment and Complete Systems for

- Basic Industries
- Power Generation
- Materials Handling
- Communications
- Transportation





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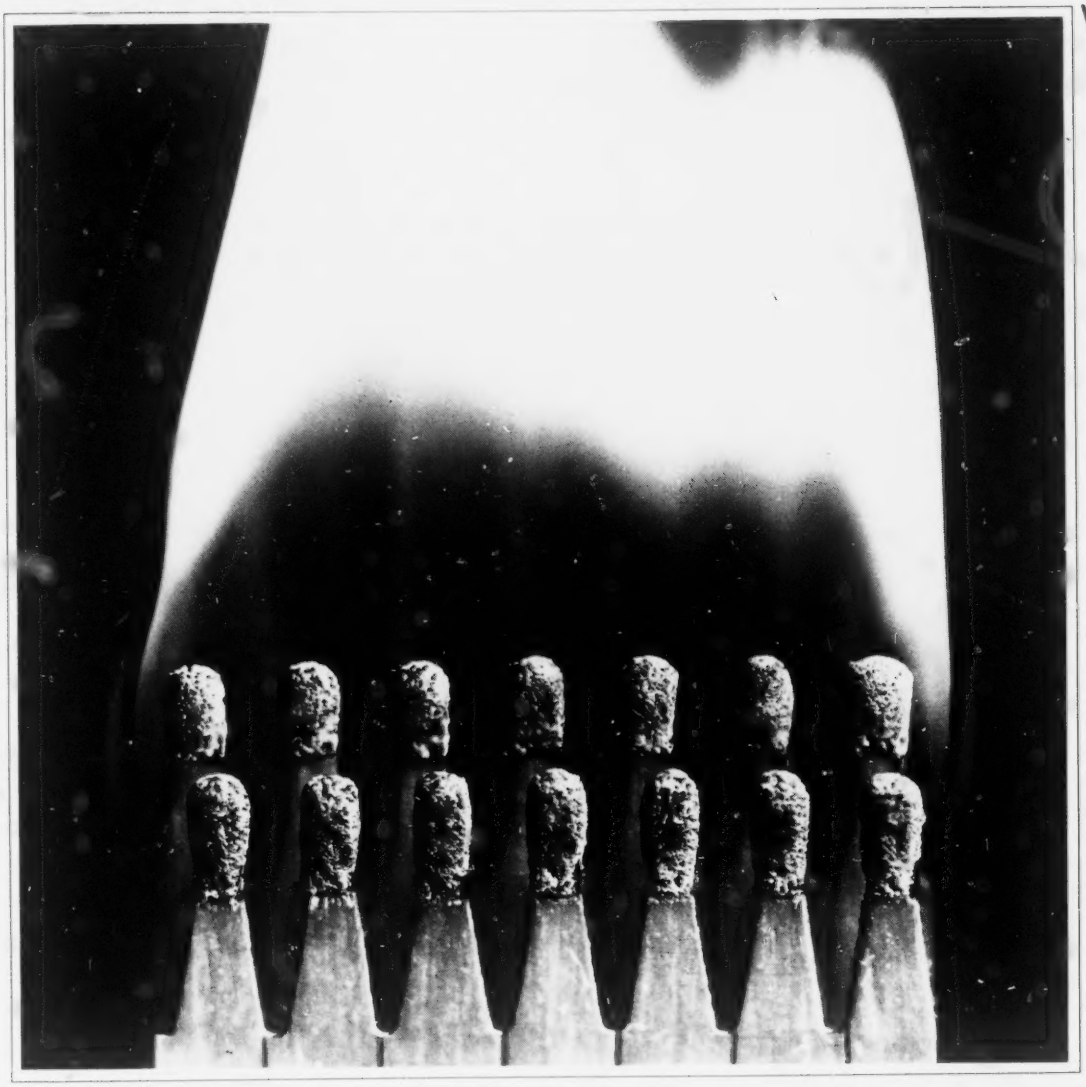

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A Technology Policy for Energy Security

by Donald Paul Hodel
United States Secretary of Energy

I want to discuss the role of a national policy for energy and the direction we are trying to drive this Administration.

I believe we do have an energy policy. A policy, to me, is something that consists of goals and strategies and programs. The goal in this case can be, simply stated, that we want an adequate supply of energy for this country at a reasonable price. So far so good. Once you start defining "adequate" and "reasonable" you begin to have problems.

During the recent International Energy Agency meeting in Paris, we tried to promote the concept of adequate as not undue dependence upon any single source. And I think we have made progress in that effort.

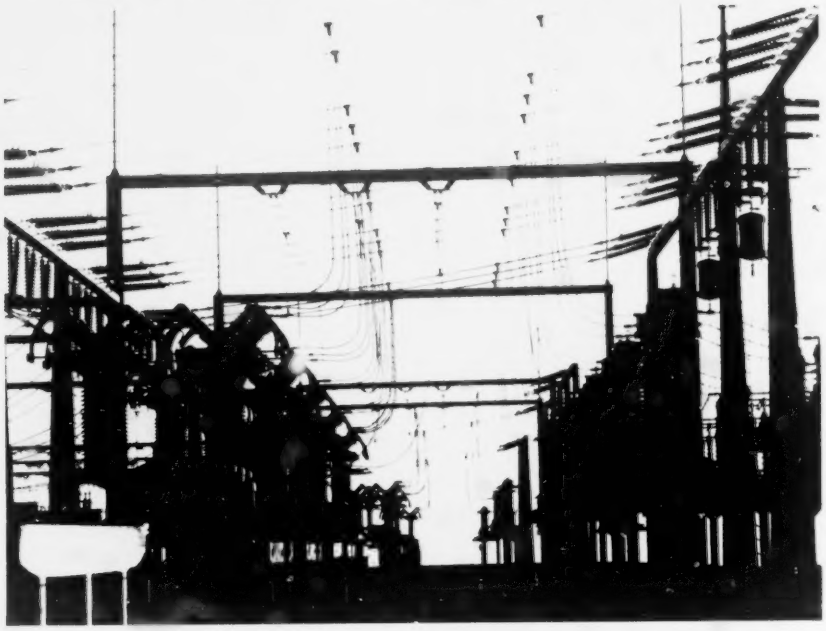
The strategies that we employ I usually catalog as two. First of all, one strategy for this Administration is to leave to the private sector, leave to the innovation and the imagination of the non-federal sector as much as possible to opportunities to do what it can do best. We also, I think, advocate and will continue to advocate a balanced and mixed energy process. I don't know any other rational approach to the energy situation. Having all of our eggs in one basket simply does not make sense, and being too dependent upon any one single source of supply, domestically or foreign, does not make good sense. And so we want to move in those directions.

So then the question: what kind of programs do we undertake in order to carry these things out? Well there are some efforts we have got underway. One area is nuclear licensing reform. We think we can make a contribution to the rationality of that process by upgrading, after 29 years of experience, the licensing program that applies to nuclear power.

We are actively engaged in carrying out the Nuclear Waste Policy Act of 1982 that was passed in the lame duck session. That will make another contribution to rationalizing the approach we take to a significant energy source in the country.

We have before the Congress a Natural Gas bill, which is attempting to do something about what I think is an agreed dislocation within that market. We don't have agreement at this stage on how that will be done, what the best way to do it is. We have our views; others have theirs. But the point is, something has got to be done to rationalize that market.

Our goal should be to expand our generic technology base underlying energy conservation to support the private sector development and commercialization of the more efficient use of energy.



You cannot identify in advance what basic research will produce for you in the way of clear economic benefits.

We also carry on research and development activities, scientific and technological activities. And I try to characterize these a little bit differently.

First of all, we maintain and operate the national labs in this country. And much of what the national labs do may be on the cutting edge of science and technology in such a way that it is hard to see what the cost/benefit ratio really is. In fact, the argument can be made, and I think carried, that you cannot identify in advance what basic research will produce for you in the way of clear economic benefits. And yet we are committed to these programs, and this Administration at a time of very severe budget crunch and very determined effort to reduce the size of the deficits has increased our request for the scientific activities which are within the scope of the national labs and the Department of Energy.

And I think the reason for that is, if we ever start evaluating the national labs purely on the basis of what the perceived and calculable in advance economic benefits will be, we have lost our way. Basic research needs to be justified on the grounds that we want to know more in these cases about the nature of the universe in which we live. And I believe we see man at his exalted best when he pursues the frontiers of knowledge and science and technology. We support those.

We come back a ways, however, and we start getting into the area energy. And we pursue energy research and development in a whole host of areas.

In the conservation field, what we are trying to do is find breakthroughs or opportunities for the commercial sector to make contributions to the conservation capabilities of this nation, not because of government subsidies to the installation of the facility, but because they make economic sense for the investor or the consumer.

We are looking at such things as improved efficiency in engines, batteries which could be used in transportation. We are looking at appliance standards which can have the opportunity to reduce consumption.

Basic research needs to be justified on the grounds that we want to know more in these cases about the nature of the universe in which we live.

In the renewables area, we are pursuing solar photovotaics. We have contributed directly to central station solar power. But interestingly with regard to photovotaics, while we have reduced our budget requests over time and are now investing about $30 million instead of 45 or so, the non-federal sector has increased its investment from 30 or more – between $30 and $60 million, depending on which figures you look at – at the present time being invested by the non-federal sector.

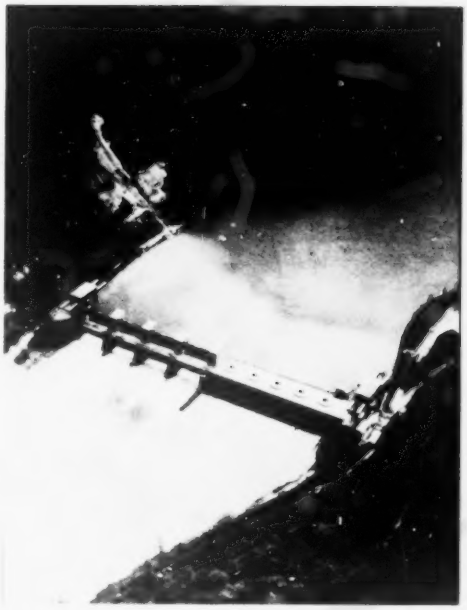
And I am intrigued by at least the reports which indicate that some of the most promising developments presently taking place in solar photovotaics may be taking place outside the work that we are doing.

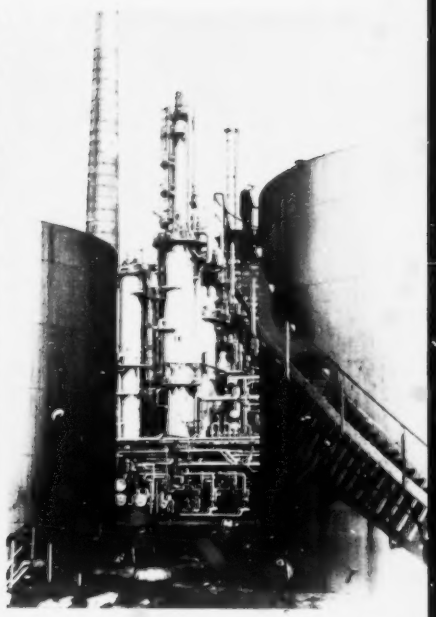
I would like to see us make the Solar Energy Research Institute, over time, into a solar national lab. And I must admit that I immediately raise turf problems when I say that. The other national labs that are doing work in the solar arena have let me know they don't like to hear me.

We are searching for clean coal, ways to get ash and sulphur and whatever else we want out of coal in order to make it more economic, less polluting, for this society. That is an area in which we are attempting to support and facilitate the non-federal sector.

In the nuclear area, we pursue health and scientific research at a fairly substantial level. We invest in research for Three Mile Island cleanup, and we are pursuing still the efforts to move forward with the breeder program in the Clinch River breeder project, and are pursuing ways to find alternate means of financing.

Our goal, I believe, should be to expand our generic technology base underlying energy conservation to support the private sector development and commercialization of the more efficient use of energy.





Our fiscal year 1984 budget proposal is $101 million for these kinds of conservation related research and development activities. That's about $80 million more than we requested in the fiscal year 1983 budget, but I must be quick to point out to you it is still less than the amount that the Congress has appropriated in the past, and is likely to appropriate this year.

Our goal should be to expand our generic technology base underlying energy conservation to support the private sector development and commercialization of the more efficient use of energy.

I would like to emphasize that I see energy systems as a continuum. The energy system is like a large pipeline. Today at the receiving end of that pipeline we happen to have in the International Energy Agency community surplus supplies of many resources. However, down that pipeline, activities are taking place which five or ten years from now will have an impact on what supply will be. It is important, as we focus on what has taken place here and what we do about it now, that individual nations take steps to see that the supply in that pipeline remains at a reliable level. ■

DEUTSCHE ZUSAMMENFASSUNG

Ich glaube wir haben eine Energiepolitik, da fuer mich Politik etwas ist, das Ziele, Strategien und Programme enthaelt. Das Ziel in diesem Fall kann die Suche nach Energiealternativen zu einem akzeptablen Preis fuer dieses Land sein.

Eine Strategie unserer Administration ist es, dieses Gebiet der privaten Wirtschaft zu ueberlassen, um moeglichst viele Alternativen zu erhalten. Jetzt und in Zukunft werden wir ein ausgeglichenes und gestreutes Energieprogramm befuerworten und uns nicht nur auf eine Energiequelle festlegen.

Einige Bemuehungen werden unternommen, wie z.B. die nukleare Zulassungsreform. Gegenwaertig arbeiten wir nach dem Nuclear Waste Policy Act of 1982.

Bezueglich unserer hohen Gastechnung machten wir dem Kongress Vorschlaege, da auf diesem Markt notwendige Rationalisierungsmassnahmen ausstehen.

Sowohl bei den allgemeinen Forschungs- und Entwicklungsuntersuchungen als auch bei wissenschaftlichen und technologischen Aktivitaeten bemuehen wir uns weiter.

Wir wollen auch weiterhin die nationalen Labors in diesem Land beibehalten. Vieles von dem, was diese Labors erarbeiten, gehoert zur Spitzenleistung von Wirtschaft und Technik, man kann aber nur schwer das wirkliche Kosten/Nutzenverhaeltnis bestimmen. Es laesst sich nicht schon im voraus erkennen, welche klaren wirtschaftlichen Vorteile sich aus der Grundlagenforschung ergeben koennen. Die Notwendigkeit der Grundlagenforschung ist jedoch dadurch begruendet, dass wir mehr ueber die Natur und das Universum in dem wir leben wissen wollen.

Wir versuchen revolutionaere Erfolge oder Moeglichkeiten zur kommerziellen Vermarktung zu finden, damit wissenschaftliche Beitraege zur Erhaltung der Leistungsfaehigkeit dieser Nation beitragen. Sowohl fuer Investoren als auch fuer Verbraucher ergeben sich daraus wirtschaftliche Anreize.

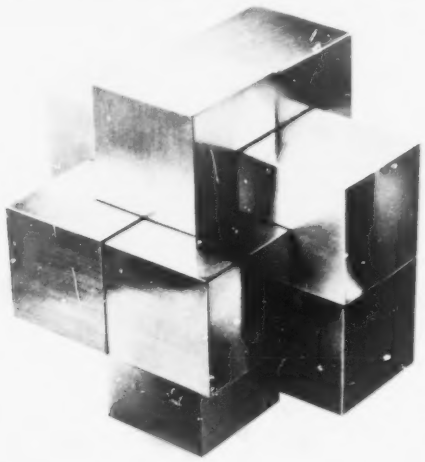
Weiter suchen wir nach Wegen, die die Effizienz der Maschinen verbessern oder nach Batterien, die im Verkehr verwendet werden koennen, wie z.B. bei Elektroautos. Die neuen Anwendungsbereiche sollen einen geringeren Verbrauch beinhalten.

Ich wuerde es begruessen, wenn sich die Forschungsaktivitaeten des Grundlagenforschungsinstitutes fuer Solarenergie im Laufe der Zeit ausweiten koennten.

Eine weitere Aufgabe ist das Finden von reiner Kohle und nach Wegen, Asche, Schwefel und andere Dinge aus der Kohle zu entfernen, um eine groessere Wirtschaftlichkeit und eine geringere Umweltbelastung fuer diese Gesellschaft zu erreichen.

Auf dem nuklearen Gebiet verfolgen wir Gesundheitsforschung und wissenschaftliche Forschung auf einem ziemlich hohen Niveau. Wir investieren in die Forschung fuer die Wiederherstellung des Reaktors und die Reinigung von Harrisburg und wir bemuehen uns, mit dem Programm des Schnellen Brueter weiterzukommen.

Ich glaube unser Ziel sollte eine generelle Erweiterung der technologischen Basis sein, der die Erhaltung von Energie zugrundeliegt. Dabei sollten sowohl Entwicklungen auf dem privaten Sektor als auch die Kommerzialisierung von effizienten Energiequellen unterstuetzt werden.



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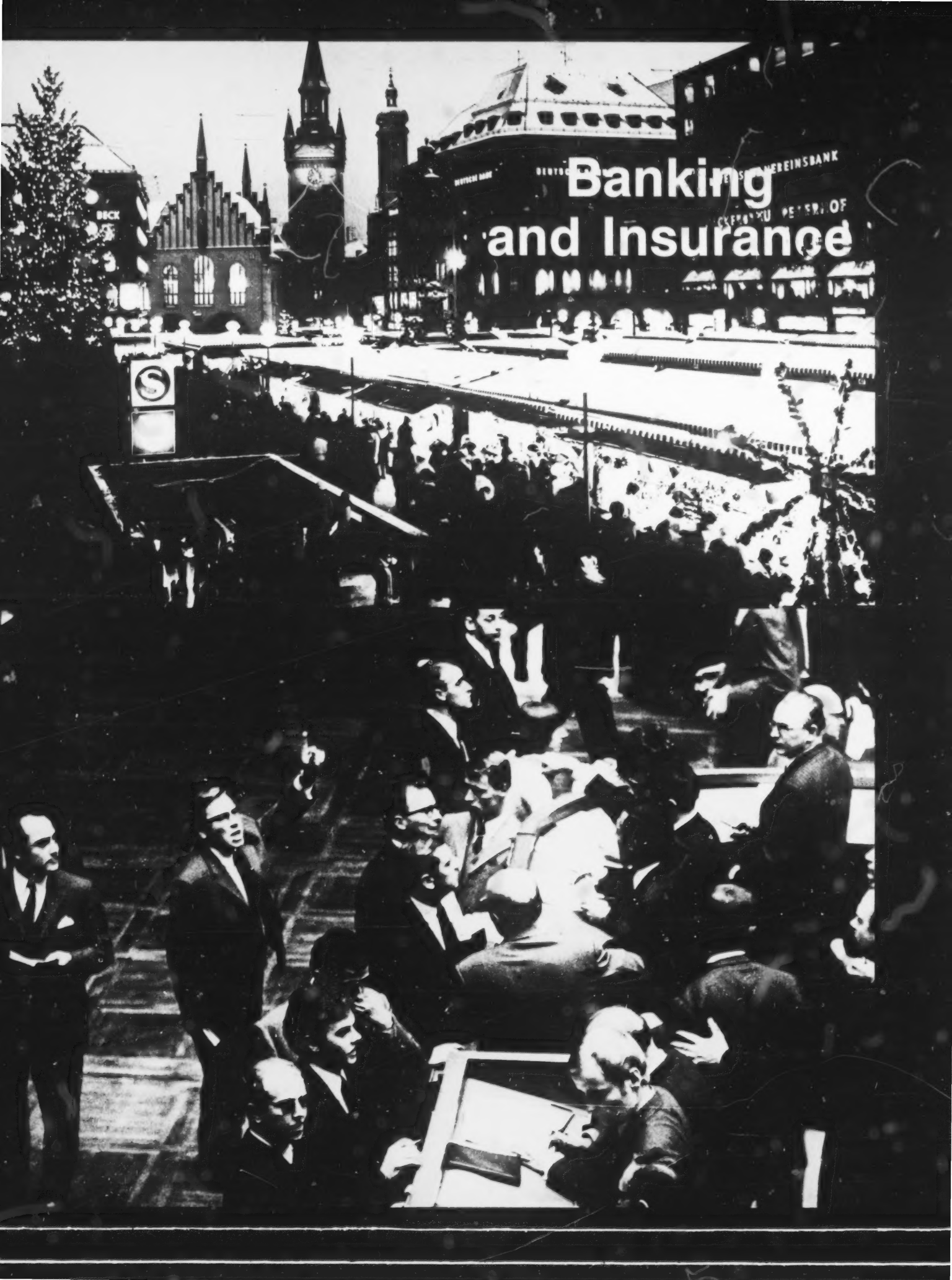

Banking
and Insurance

Activities of West German Banks in the US Market

by Dr. Alfred Herrhausen
Management Board Member
Deutsche Bank AG

West German banks began to build up a presence in the United States in the early 1970's. They entered the commercial banking sector as well as investment and brokerage business. Some German banks started up operations jointly with other European consortium partners before the first German commercial banking branch was independently established in the U.S. in 1971.

At the end of 1982, twelve German banks conducted commercial banking business from 20 offices located throughout the U.S. This is not a significant presence considering that there are 275 commercial banks with over 6,100 offices in West Germany. Of course, the primary location for their activities was New York, with 11 branches and representative offices. Other preferred locations include Chicago, Los Angeles, Houston, Atlanta, and Miami, in that order. The system of operation through branches offered the advantages of relief from capital requirements and the availability of the parent's lending limit and borrowing capacity. In connection with their US domestic activities, the banks maintain links with the offshore dollar markets, mostly through facilities in the Bahamas and the Caribbean. Furthermore, since the end of 1981 most of the banks have made use of the tax and reserve cost advantages offered by setting up International Banking Facilities (IBFs) in New York.

To complete the picture of the present involvement of German banks in the US markets, mention should be made of their equity holdings in consortium banks, in investment and brokerage houses and in a number of other finance-related companies.

At the end of 1982, the total assets of German banks amounted to $8.88 billion (end of 1981: $7.3 billion), to which may be added an estimated $5 billion, or even more, representing assets of offshore facilities engaged in US-related business. Compared with the dominance of the American commercial banks, with assets of about $1,876 billion and an equity capital of about $129 billion, the role of German banks in the US markets is relatively insignificant.

It is not even important compared with the market presence of other foreign banks, which during the last five years have increased their representation in the U.S. from about 300 to 464 offices. This reflected growth in assets from $200 billion to merely $300 billion. At the end of 1981, Japanese banks maintained 70 offices and assets of $88.9 billion, Canadian banks 48 offices and $23.4 billion in assets, British banks 38 offices with $46.2 billion, in the US market only. Bank representation from other countries, like France, Italy, Hong Kong and Switzerland was more substantial than that of the Germans. Overall, the banking assets of German banks at the end of 1982 were not more than 3.06% of the assets held by foreign banks, which in turn

Overall, the banking assets of German banks at the end of 1982 were not more than 3.06% of the assets held by foreign banks, which in turn accounted for 15.5% of the total assets of US commercial banks.

accounted for 15.5% of the total assets of US commercial banks.

When comparing the equity capital position of German banks in foreign countries, their equity of $180 billion (DM 445 b.) in the U.S. is dwarfed by their commitment in Luxembourg with equity capital of $1,748 billion (DM 4,369 billion). Luxembourg stands out as by far the most important location for investments by German banks because it has traditionally been their center for Euromarket activities. In this connection, however, it should be borne in mind that banking activities in Luxembourg require paid-in capital whereas commercial banking business in the U.S. or even in the U.K. is mainly conducted through branch offices with no capital requirements.

Although moving cautiously when developing their activities, the German banks, like most other foreign banks, have stepped up their efforts in the U.S. during the last few years as it became the world's most important economy and one of the leading financial centers. The economic "internationalization" of the US market was rooted in the prominent change in the role played by the US-dollar in international trade and investment. In effect the US-dollar became the world's major reserve and trade currency during the 1970's.

Ironically, this role was fostered by the US-dollar's accelerated depreciation vis-a-vis the major European currencies and the Japanese yen. The process began in 1971 with the collapse of the Bretton Woods system. The decline of the dollar enhanced the attractiveness of the US markets as a medium for international diversification of investments. This attractiveness gained momentum because of the United States' stable political climate and its position as the political and economic center of the Western world. That momentum was intensified by the world-wide recession which attached a greater risk to European investments in regions such as the Eastern bloc, Latin America, and other LDCs.

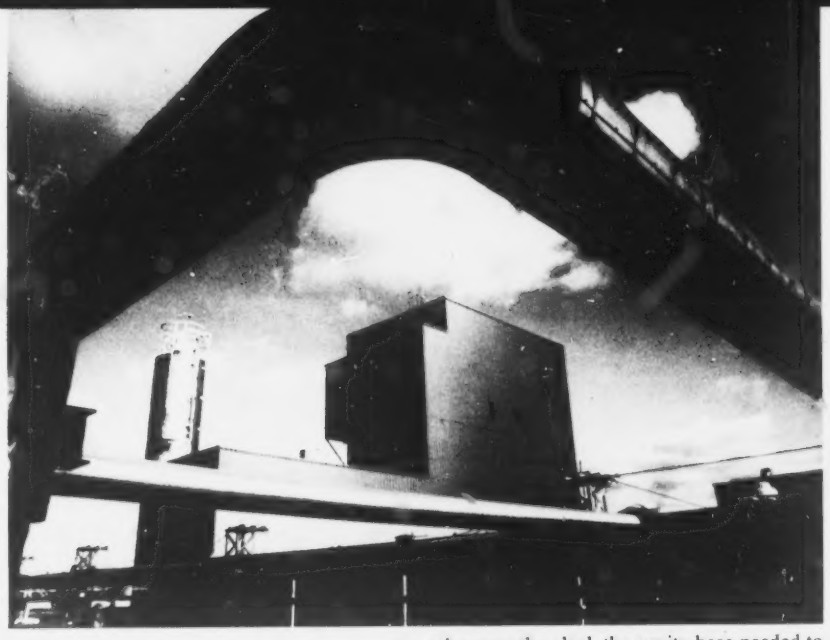
Foreign direct investment in the US, therefore, recorded a threefold increase during the 6 years 1977-1982 compared with a twofold rise during the period 1971-1976. In 1982, foreign direct investment reached a total of more than $100 billion (1981: $10.3 billion = 10%). Exchange rate: $1 = DM 2.50. In addition to direct investments, foreign investment in US securities alone – not to mention real estate and other investments – amounted to $101.3 billion. Such capital inflows from German sources have been estimated at $8.0 billion in 1982 alone.

The growing international importance of the US financial markets, enhanced by the creation of International Banking Facilities, was a natural consequence. The old rivalry for superiority between London and New York was revived. One of the significant features was the development

of an international funds market, capable of serving the foreign banks and multinational corporations. Pertinent expression of this development is the fact that more and more external borrowers in the Eurodollar markets insist on interest rate alternatives in domestic US-dollar terms.

The West German banks came to the U.S. in the wake of their clientele from German trade and industry.

This business environment also fostered the development of the West German banks in the U.S.: they came to the U.S. in the wake of their clientele from German trade and industry. Based on long-standing relationships at home, they felt they could more readily meet the financial needs of German corporations operating in the US. Having an American relationship with a home bank also seems to be important to German corporations which often prefer to limit their own exposure either from genuine caution in assuming the risk of a foreign currency engagement



or because they lack the equity base needed to expand in the promising, but also demanding, US markets. Furthermore, the German banks tried to broaden their customer base by serving American customers as well, particularly if a German relationship already existed or could be anticipated. Contacts with US corporations proved easy to establish. In many cases, the Germans had helped US corporations, through their underwriting departments, to gain access to European capital markets. Moreover, the financial officers of American corporations seem more approachable than their counterparts particularly in Europe. The need for further diversification of their customer base led German banks to approach the so-called "US middle market." They also moved into specialized financing, such as project financing in the energy-related industries, real estate and other fields.

The pitfalls of financing in the heterogeneous US market, where business mentality and legal and banking patterns differ from German experience, have often proved to be as big as the opportunities available, particularly during the last few years which saw the most severe post-war recession worldwide.

Other areas in which German banks are active include international payment business and foreign exchange dealing, the mainstays of European banks in general. These services were offered by US banks at comparatively reduced fees where overall satisfactory relationships, with profitable account balances and interest margins, already existed. Abundantly liquid funding markets, a contracting economy and ever-growing competition from other financial institutions have led to a sharp reduction in interest margins and non-interest-bearing balances; at the same time, a correspondingly cost-oriented restructuring of service fees has not developed accordingly.

A basic requirement for German and other foreign banks was access to dollar-based funds without the need to build up customers' deposits. The New York money markets increasingly offered the means to "purchase" the funds required. Interbank deposits, from a still growing banking community, as well as time deposits from the larger corporations, often made available through the activities of money brokers, have created the extraordinary productiveness of the New York money markets. The Federal Funds market alone is estimated to have a daily volume of between $100 and 120 billion. The placement of certificates of deposit and commercial paper through institutional dealers and own issues provide further avenues to funding sources.

But it should not be forgotten that German banks in that environment remain foreign banks. Their credit standing is prone to any negative associations in the minds of US investors, be it with regard to the banks' corporate perfor-

The pitfalls of financing in the heterogeneous US market, where business mentality and banking patterns differ from German experience, have often proved to be as big as the opportunities.

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Tax implications have also had a major impact on the development of German banking corporations in the U.S. and will continue to do so in the future.

mance or to country risk factors. Tremors were felt in the markets, for example, when a combination of German banks' loan exposure to Poland and AEG came to the attention of the US financial community. Effectively adjusting to the availability and price risk in meeting their refinancing requirements is the banks' foremost task on the liabilities side.

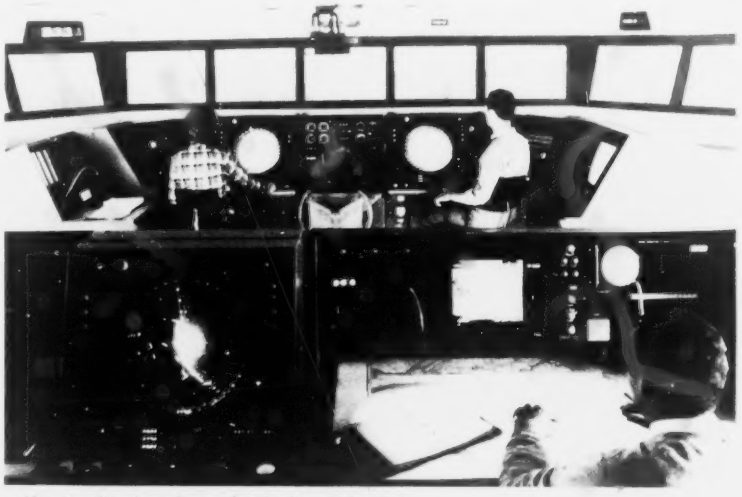
In addition to economic and business-related factors, regulatory and tax considerations normally connected with the banking industry are substantial.

Until the passage of the International Banking Act of 1978 (IBA), foreign banks were, in principle, not restricted by the regulations applicable to US banks. Many foreign banks, therefore, whose entry into the U.S. preceded the IBA, operated in a number of different states and had established investment and brokerage affiliates in addition to their commercial banking offices. However, the IBA made foreign banks subject to the Bank Holding Company Act of 1956/70 with the aim of establishing parity with the regulatory situation of US banks as regards the separation of commercial banking from investment banking, the prohibition of interstate branch banking and restrictions on other non-banking activities.

IBA was followed by the Monetary Control Act of 1980 which gave the Federal Reserve Board (Fed) certain supervisory responsibilities and imposed the same reserve requirements on all banks operating in the U.S. Deposit insurance under FDIC became mandatory under certain conditions for foreign bank branches in the U.S. The new legal situation created major problems for German banks because of the different structure of their banking system and general corporate requirements. In the Federal Republic the so-called "universal banking" system, where commercial and investment banking are combined in one institution, is well established. Also, holdings of more than 25% in the equity of non-bank corporations, prohibited under US law, are accepted as normal in the German banking system. Fortunately, detailed compromises reached with the US authorities allowed foreign bankers to continue with their investment banking and other non-banking activities. In general, "grandfathering clauses" and other provisions precluded the necessity for foreign banks to decide whether to close their US branches or divest their investment banking operations in the U.S., or part with their holdings in non-US, non-bank companies. Foreign banks and their affiliated non-banking companies with US operations would have been required by the Fed to disclose substantially more information than traditionally required under regulations at home. After intensive discussions, a compromise was reached and acceptable reporting requirements adopted.

It should be stressed that the reporting requirements of foreign banks which must comply with regulations in their host country, the parent's home country, as well as those of the state and other reporting rules of regulatory authorities represent a laborious task.

For instance, in the course of a year, a German bank branch has to provide about 2,000 individual reports for all supervisory and regulatory authorities involved. One wonders whether the supervisors of international banks could find any appropriate means to reduce this burden.



Tax implications have also had a major impact on the development of German banking corporations in the U.S. and will continue to do so in the future. It is not only the choice of location which makes tax considerations particularly complicated. Banking activity in New York City may result in a combined Federal, State and City tax liability as high as 59%. This is the highest in the United States. As in other business, therefore, it is a formidable task to structure assets with appropriate regard to the local tax situation.

(Of all the tax issues faced by German banks in the U.S., the most important is the computation of taxable interest income and deductible interest expenses. The US-German Tax Treaty apparently does not satisfy the requirements of the Internal Revenue Service (IRS) in computing the German banks' taxable income. In general, European banks were in disagreement with the IRS method of computing interest expenses according to the average worldwide total of such expenses. The IRS approach would have re-

quired that banks from low-interest rate countries incur sizable tax liabilities on their reported interest income. Since 1981, however, the IRS has settled on a new formula (Reg. Sec. 1.882-5), which requires that a U.S. branch of a foreign bank hold 5% of its Third Party Assets in capital and thus eliminate all related interest expense. This settlement puts the foreign banks on an equal footing with the U.S. banks with regard to their average equity requirements and tax liability.)

Much of their profit has been used up by write-offs or loan loss provisions relating to risks in certain corporate exposures and in the involvement of many German banks in certain Latin American lendings.

When discussing the regulatory environment in which German banks operate in the U.S., one cannot overlook the restriction they face with regard to the banking regulations in the Federal Republic. In addition to the stringent requirements concerning special lending limits, loan documentation, and others, the major influence on asset and liability management in their US operations, too, is the so-called three "Principles concerning the Equity Capital and the Liquidity of Credit Institutions," which among other things, require a capital ratio of 1 to 18 between the bank's equity and its loans and participations (Principle I), a long-term liquidity ratio (Principle II) and a short-term liquidity ratio (Principle III). The US market may, from time to time, serve the needs of a German bank to meet its requirements under Principles II and III by providing 4-year or longer-term funds. The availability of non-bank deposits may be used to replenish the bank's deposits base. However, the crucial Principle I limits, in effect, the expansion of business through US branches with the rationale that no new asset risks be created which do not provide the profitability for adequate equity growth and serve the bank's long-term dividend and reserve/retained earnings requirements. Although this principle creates a clear restriction, it must be viewed as a sound business principle. In this respect, the competitive environment of the US markets, in which the main consideration seems to be "market share," confronts German banks more than many other international markets with the alternative: growth or profitability.

Are German banks operating at a profit in the US markets? Are profits up to their expectations? There is no information on profitability available at this point. According to qualified opinion, they should be in a position to show positive operating results. Much of their profit, however, has been used up by write-offs or loan loss provisions relating to risks in certain corporate exposures and in the involvement of many German banks – together with their American counterparts – in certain Latin American lendings.

The presence and prospects of German banks in the US markets, therefore, are not without problems. But considering the importance and resilience of the US economy, together with the growing expertise of German banks, there is good reason to be optimistic about the future. ■

DEUTSCHE ZUSAMMENFASSUNG

In den fruehen 70er Jahren etablierten sich die ersten Westdeutschen Geschaeftsbanken in den Vereinigten Staaten und stiegen in alle Bankbereiche ein.

Ende 1982 waren 12 deutsche Geschaeftsbanken an 20 Orten innerhalb der USA vertreten, was im Vergleich zu den 275 Banken der Bundesrepublik eine geringe Zahl sein mag. Natuerlich sind die meisten Banken in New York taetig (11 Filialen und Representative Bueros). Die Filialen haben den Vorteil, dass sie die Unterstuetzung der Muttergesellschaft bei Kapitalbindungen, der Kreditaufnahme und bei dem Kreditlimit haben. Neben den amerikanischen Geschaeften halten die Banken auch Verbindung mit dem Euromarkt, meistens ueber die Bahamas oder der Karibik. Daneben haben sie auch Wertpapierbeteiligungen an Bankenkonsortien, an Investitions- und Maklerhaeusern sowie einigen anderen Firmen.

Ende 1982 betrug das Gesamtguthaben der deutschen Banken in den USA $ 8.88 Mrd. Im Vergleich zu den amerikanischen Geschaeftsbanken und deren Guthaben von $ 1, 876 Mrd. ist die Bedeutung der deutschen Banken auf dem US Markt relativ gering.

Die Bedeutung ist selbst im Vergleich zu anderen auslaendischen Banken gering, deren Praesens auf 460 Bueros anstieg mit einem Guthaben von $ 300 Mrd. Fuehrend sind Japan, Kanada und Grossbritannien, aber auch Frankreich, Italien, Hong Kong und die Schweiz sind bedeutender als die Bundesrepublik.

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pieranteil der deutschen Banken im Ausland mit $ 180 Mill., Luxembourg dagegen $ 1,748 Mill. Dabei muss bedacht werden, dass Luxembourg das Zentrum der Euromarktaktivitaeten ist und vergleichbare Kapitalbedingungen wie in Luxembourg, in den USA nicht vorherrschen. Deutsche Banken haben ihre Aktivitaeten in Amerika verstaerkt, als das Land in den letzten Jahren zur wichtigsten Wirtschaftsnation aufstieg. Die USA wurden eine der fuehrenden Finanzzentren und der Dollar zur Reserve- und Handelswaehrung.

Diese Rolle des US Dollars wurde durch eine beschleunigte Abwertung der europaeischen Waehrungen und des japanischen Yen erreicht, als 1971 das Bretton Wood System zusammenbrach. Der US Markt wurde fuer Investitionen attraktiver. Diese Impulse wurden sowohl durch die stabile politische und wirtschaftliche Situation als auch durch die weltweite Rezession gesteigert, wodurch die Investitionsrisiken der Europaer in anderen Regionen groesser wurden.

Die internationale Bedeutung des amerikanischen Finanzmarktes steigerte auch die International Banking Facilities. Die alte Rivalitaet um den groessten Finanzmarkt lebte wieder zwischen London und New York auf.

Viele Banken kamen in den Fusstapfen ihrer Kunden aus Handel und Industrie in die USA. Aud Grund von langjaehrigen Geschaeftsverbindungen glaubten die Banken, sie koennten den finanziellen Anforderungen ohne weiteres nachkommen. Und auch fuer deutsche Firmen scheint es wichtig zu sein, in den USA eine Geschaeftsbeziehung mit einer Heimatbank zu haben. Zudem versuchen deutsche Banken auch amerikanische Kunden zu finden, speziell wenn schon Beziehungen zu Deutschland bestehen oder erwartet werden. Die Notwendigkeit den Kundenstamm zu erweitern fuehrte deutsche Banken in den sogenannten "US middle market". Ausserdem etablierten sie sich in bestimmten Finanzierungsgebieten wie Projektfinanzierungen fuer Energieindustrieunternehmen, Grundstuecksfinanzierungen und andere Gebiete.

Die Gefahr von Fehlinvestitionen in diesem verschiedenartigen US Markt, wo die Geschaeftsmentalitaeten, die Rechts- und Bankmethoden im Vergleich zu Deutschland recht verschieden sind, haben sich als genauso gross erwiesen, wie die Moeglichkeiten Erfolge zu erreichen, speziell in der gegenwaertigen Rezession.

Andere Gebiete, in denen deutsche Banken aktiv sind, wie das internationale Zahlungsgeschaeft und der Devisenhandel, sind generell die Hauptstuetze von europaeischen Banken. Liquide Konsolidierungsmaerkte, eine vertraglich gebundene Wirtschaft und ein immer staerker werdender Wettbewerb fuehrten zu einer Verminderung der Zinsmargen; zur selben Zeit fand jedoch keine kostenorientierte Umstrukturierung der Serviceleistungen statt.

Die Hauptbedingung fuer Auslandsbanken war der direkte Zugang zu dem Dollar-Kapital, ohne dass Anlagegelder der Kunden benoetigt werden. Durch zunehmende Aktivitaeten der Geldmaerkte und steigende Einlagen der Interbank, Bankgemeinschaften und groesseren Firmen wurde die Produktivitaet des New Yorker Marktes erheblich verbessert.

Aber dabei sollte nicht vergessen werden, dass deutsche Banken in dieser Umgebung auch weiterhin Auslandsbanken bleiben. Ihr Kreditansehen wird nach Meinung der US Investoren eher mit negativen Assoziationen verbunden, sei es in Hinblick auf die kooperative Ausfuehrung der Banken oder der "Country risk" Faktor. Eine wirkungsvolle Regulierung von Nutzen und Preisrisiko in Bezug auf die Refinanzierungsbedingungen ist die wichtigste Bankverpflichtung.

Bis zum Inkrafttreten des "International Banking Act" (IBA) von 1978 wurden Auslandsbanken nicht durch jene Verordnungen eingeschraenkt, die auf amerikanische Banken zutreffen. So waren viele Geschaeftsbanken auch im Kapitalmarkt und im Maklergewerbe taetig. So wollte der IBA bei dem "Bank Holding Company Act" diese Aktivitaeten der Auslandsbanken unterbinden und eine Gleichstellung zu U.S. Banken schaffen.

Dem IBA folgte der "Monetary Control Act" von 1980, bei dem der Federal Reserve Board (FED) eine gewisse Ueberwachungsverantwortung gegeben, und gleiche Sparbedingungen fuer alle in den USA taetigen Banken auferlegt wurden. Die neue rechtliche Situation brachte grosse Probleme fuer deutsche Banken durch das verschiedenartige Banksystem mit sich. In der Bundesrepublik ist das sogenannte "universal banking" System verbreitet, bei dem Geschaefts- und Anlageaktivitaeten in einer Institution zusammengefasst werden. Gluecklicherweise konnten einzelne Kompromisse mit den US Behoerden erreicht werden, die Auslandsbanken erlauben ihre Investitionsgeschaefte und andere nicht bankbezogene Aktivitaeten fortzufuehren. Nach intensiven Diskussionen konnte auch eine Loesung darueber gefunden werden, welche Geschaeftsberichte die Banken veroeffentlichen muessen, da detailiertere Berichte als im Heimatland gefordert wurden.

Es sollte betont werden, dass die Auslandsbanken mit ihren Geschaeftsberichten den Verordnungen des Gastlandes, des Heimatlandes und des jeweiligen Staates erfuellen muessen, was eine sehr muehsame Aufgabe ist. So muss eine deutsche Bankfiliale im Laufe eines Jahres ueber 2.000 Berichte fuer die Aufsichts- und Ausfuehrungsbehoerden fertigen.

Von Bedeutung fuer die Banken sind auch Steuerbelastungen, die nicht nur bei der Standortwahl wichtig sind. Die Bankaktivitaeten in New York City koennen eine Steuerverpflichtung von bis zu 59% zur Folge haben, die sich aus Landes-, Staats- und Stadtsteuer zusammensetzt.

(Bei den Steuerausgaben ist den deutschen Banken die Berechnung des zuversteuernden Zinseinkommens und die abzugsfaehigen Zinsausgaben am wichtigsten. Das deutsch-amerikanische Doppelbesteuerungsabkommen erfuellt sichtlich nicht die Vorschriften des "International Revenue Service" (IRS), der das zuversteuernde Einkommen der deutschen Banken errechnet. Allgemein gibt es Meinungsverschiedenheiten ueber die IRS-Methoden, der die Zinsausgaben auf Grund des weltweiten Durchschnittwertes berechnet. Seit 1981 wird mit einer neuen Formel (Reg. Sec. 1.882-5) gerechnet. Hier werden von den US Filialen einer Bank 5% des "Third Party Asset" gefordert und alle damit verbundenen Zinsausgaben eliminiert. Diese Vereinbarung versetzt Auslandsbanken bezueglich der durchschnittlichen Eigenkapitalbindungen und Steuerverpflichtungen in die gleiche Lage wie US Banken.

Bei einer Diskussion ueber die Rahmenbedingungen auf dem US Markt, kann man die Einschraenkungen nicht uebersehen, die den deutschen Banken auferlegt werden. Zusaetzlich zu den strengen Bedingungen wie Kreditgrenzen, Lohnnachweise etc. haben die sogenannten "Principles concerning the Equity Capital and the Liquidity of Credit Institutions" einen sehr grossen Einfluss auf das US Management. Sie fordern u.a. ein Kapitalverhaeltnis von 1 zu 18 zwischen dem Grundkapital der Bank und den Krediten bzw. Beteiligungen (Prinzip 1), einen langfristigen Liquiditaetsverteilungsschluessel (Prinzip 2) und ein kurzfristiges Liquiditaetsverhaeltnis (Prinzip 3). In dieser Hinsicht konfrontiert die konkurrenzfaehige Umgebung des US Marktes die deutschen Banken mehr als andere mit der Alternative : Wachstum oder Wirtschaftlichkeit.

Ueber den moeglichen Profit der deutschen Banken gibt es keine Information, doch sollten positive Ergebnisse moeglich sein. Ein wichtiger Anteil ihrer Ertraege wird fuer Abschreibungen und Rueckstellungen verwendet, zur Deckung gewisser Kreditrisiken bei Lateinamerikanischen Staaten.

Die Gegenwart und die Zukunft der deutschen Banken im US Geschaeft ist nicht ohne Probleme. Aber die Bedeutung und die Elastizitaet der amerikanischen Wirtschaft zusammen mit der wachsenden Expertise der deutschen Banken sollten gute Gruende fuer eine optimistische Zukunft sein.

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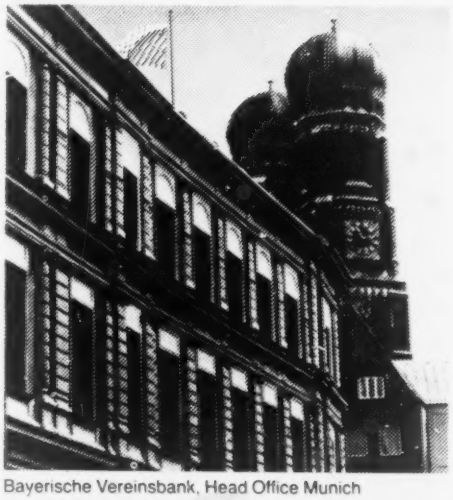

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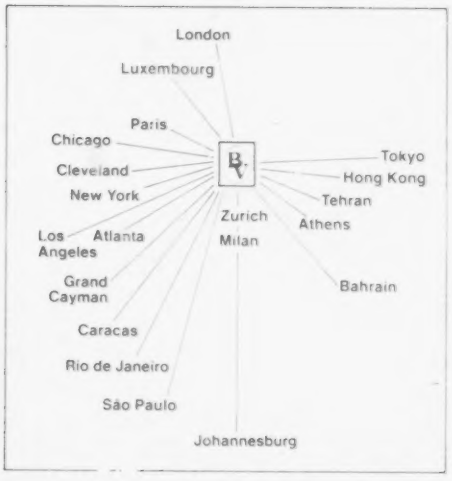

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American Banking Operations in the Federal Republic

by **Philip D. Sherman**
County Corporate Officer for Germany
and
Chairman of the Managing Board
Citibank AG, Frankfurt, and

Dr. Dieter Wermuth
Chief Economist
Citibank AG, Frankfurt

For the last few years, U.S. banks have been fighting an uphill battle to create a "level playing field" on which they can collectively hold their own against a myriad of non-bank competitors. The Americans can learn much from their German branches and subsidiaries, which compete on what is perhaps the most level of banking and financial playing fields in the major industrial countries. As might be expected, the competition is fierce but the rules themselves are quite reasonable.

Germany is an open market. Foreign banks can enter freely and, like local banks, branch nationally. All banks – foreign and local – are permitted to offer all services, broadly defined to include what is needed for the "banking" and "securities" businesses. Although "universal" in principle, most banks have specialized to meet the demands of particular market segments. The "Grossbanken", the Deutsche, Dresdner, Commerzbank – world institutions that offer a total range of financial services – and the small local savings and mutual banks, which focus on a limited geographic area only, together make up a widely diverse banking system.

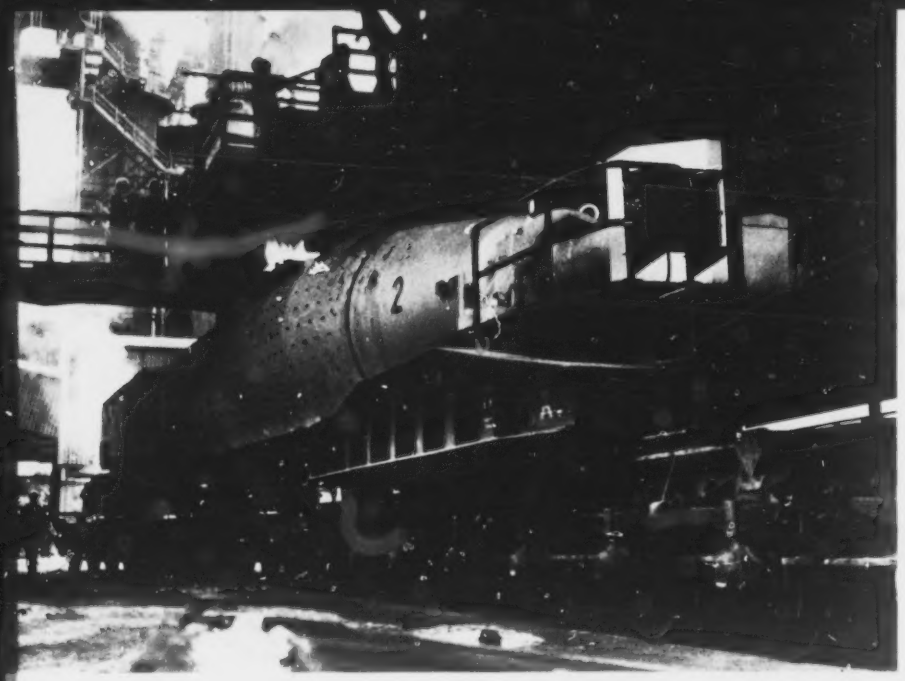
Germany is a trade-oriented economy, with exports accounting for about one third of GNP. There exist no exchange or capital controls and German banks can deal freely in world markets, except in composite or artificial units such as the SDR.

Since foreign banks may also fully participate in the central bank's domestic payment system there are no competitive barriers in this area. The German government imposes no controls on interest rates. A uniform system of reserve requirements keeps money market competition on an even basis for all players. Foreign banks do, however, lack deep national branch networks.

This is not to say there are no rules or supervision. Under the banking law, the Berlin-based supervisory authority has broad power. Perhaps the most basic rule is that all banks, whether incorporated in Germany or merely branches with allocated capital, must have two qualified managers. These officers must be experienced professionals with a knowledge of German banking and the German language. There are four basic regulatory principles (the famous "Grundsaetze") which require that:

- risk assets (more or less as defined in the U.S.) should not exceed eighteen times capital.

A uniform system of reserve requirements keeps money market competition on an even basis for all players.



– overall foreign exchange positions should not exceed 30% of capital, with additional limits on forward positions within the overall limits.
– longer maturity assets should be financed by longer maturity liabilities.
– short-term assets should be financed either long-term or, as a practical matter, mainly by shorter-term customer deposits.

A major issue in German banking at present is the application of the first principle to the consolidated balance sheets rather than to the parent bank only. Another significant regulatory limit addresses the German banks' volume of "large credits" relative to capitalization.

As a result of the simple and open regulatory environment, German banks have been able to play a larger role in the country's financial system than that of the U.S. banks in America. There are other reasons for this as well – a mutual self-denying ordinance with the insurance industry, which is smaller than in the U.S.; less of an emphasis on short-term personal finance and banks' power vis-a-vis clients who are potential competitors. But the fact remains that the banks' strong competitive powers have been allowed to grow under open skies.

As a result of the simple and open regulatory environment, German banks have been able to play a larger role in the country's financial system than have U.S. banks in America.

The strength of the banks – and the simplicity of the regulatory regime and of banking-related commercial law – make German corporate finance relatively straightforward and uncomplicated. An historically low rate of inflation has encouraged simple, fixed rate pricing, an approach which German bankers and the authorities foster.

This is not to say there are no complicated financings, especially in the leasing area. Nor have the high interest rates of recent years been without influence in encouraging a shorter-term pricing outlook and even a move to more floating rates.

The outlook for U.S. banks in Germany is at once favorable and challenging. They are free to compete anywhere in the country, for any client's business. This climate breeds competition and makes credit pricing tight. The pricing situation is compounded by accounting and leverage differences between German and U.S. banks: Deutschmark equity capital (due to lower inflation) has a lower intrinsic return requirement than the U.S. dollar capital furnished to German subsidiaries by their parents.

The competitive situation in Germany lends credence to arguments for deregulation in the United States: greater competition does, in fact, lead to greater benefits for the customer.

U.S. banks, which operate in Germany through branches and locally-incorporated institutions (see attached), hold an influential position in some market segments – but only a very small share of the entire market; U.S. institutions have perhaps a 1% share of total banking assets in the Federal Republic. American banks account for a somewhat larger share of Euro-Deutschmark lending into Germany.

Since this is a business only for the bigger, more commercially-oriented German banks, the total amount of Euro-DM business approaches only 5% of the domestic business volume. So the American banks' market share picture does not change much as a result of their Euro-market activities.

high), U.S. banks in Germany continually develop new sources of earnings. They have worked to broaden their service offerings, especially for trade financing and global servicing of German multinationals. Electronically-based customer service is starting to be introduced. Merchant banking in all its forms is also developing. Here,

The balance sheets of American banks, like those of other foreign banks, differ from those of most German banks. Looking at their assets, one can see a heavy money market orientation, with 60% classified as to "lending to banks". This compares to an average of 30% for the entire German banking system. Looking at the other side of the balance sheet, the foreign banks in Germany fund their liabilities from the money markets in Germany or in the Euro-market, where the rates are somewhat lower. German banks, by contrast, collect two-thirds of their funding from customer deposits. This is not unusual, given their branch networks. Their asset and liability mixes make it obvious that money management is crucial to the foreign banks, which live in the eddies between German banks' liability and asset pricing. This is compounded by the foreign banks' concentration on the top credit risks, which command the finest pricing on both loans and deposits.

Foreign banks are also more heavily capitalized than German banks, with roughly a 6% ratio to total balance sheet footings. This is, of course, to allow them larger foreign exchange trading position limits. Foreign exchange, both in terms of own-position trading and customer service, is one of the major businesses of U.S. banks in Germany.

It is now clear why U.S. banks rely heavily on money market management and foreign exchange trading for their profits. Since these earnings can be volatile (and basic expense levels

of course, the German banks are very strong. Market practice, furthermore, tends to restrict entry of outsiders to long-established syndicates

Foreign banks are also more heavily capitalized than German banks, with roughly a 6% ratio to total balance sheet footings.

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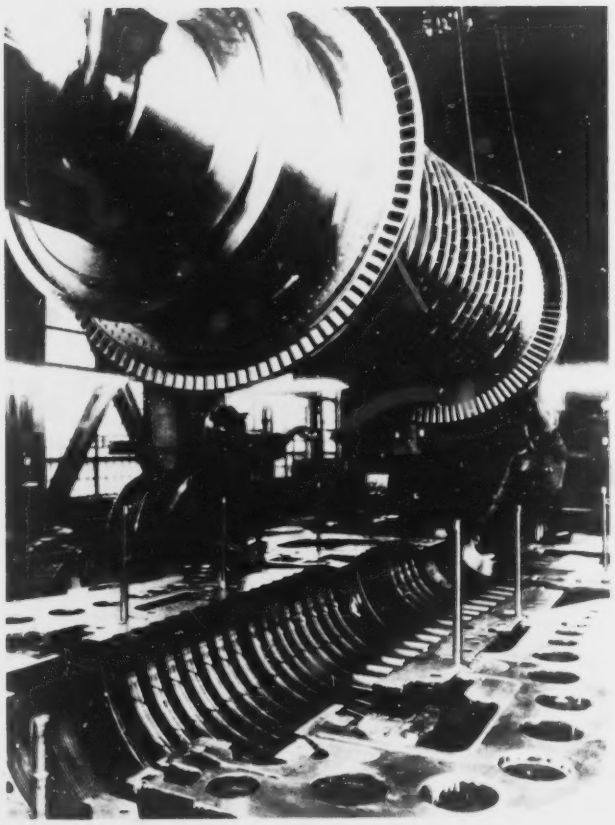

for particular issuers, and the market is informally but effectively regulated by the capital issues committee that meets under central bank auspices.

Some U.S. banks retrenched by closing smaller branches outside of Frankfurt. Tight expense control always results from highly competitive markets, and one sees this trend building in the U.S. as deregulation takes hold.

If the future of U.S. banking is to be one of open and relatively even competition, then U.S. banks can see such a future clearly through the eyes of their German branches and subsidiaries.

U.S. Banks in Germany

U.S. Banks operate through branches and wholly-owned subsidiaries that are subject to German laws and regulations. Those U.S. banks with subsidiaries believe there are fiscal and market advantages which offset the incremental costs of local incorporation. There are also investments in banks specializing in consumer business and German-controlled banks.

U.S. Commercial Banking Subsidiaries

American Express Bank GmbH
Bankers Trust GmbH
Chase Bank AG
Chemical Bank AG
Citibank AG

U.S. Commercial Bank Branches

Bank of America
Continental Illinois Bank
First National Bank of Boston
Irving Trust Company
Manufacturers Hanover Trust Co.
Mellon Bank
Morgan Guaranty Trust Co.
National Bank of Detroit
Security Pacific National Bank

Other U.S.-Owned Banks

Bankhaus Centrale Credit AG (Bank of America, 100%)
Joh. Berenberg, Gossler & Co. (Philadelphia National Bank, 15%)
BfK Kreditbank AG (Beneficial Corp., 100%)
Ford Kredit Bank (Ford Motor Company, 100%)
Heller Factoring Bank (Walter E. Heller Overseas Corp., 100%)
KKB Kundenkreditbank (Citibank, over 90%)
Opel Kreditbank AG (General Motors, 100%) ■

DEUTSCHE ZUSAMMENFASSUNG

In den letzten Jahren haben US Banken einen muehsamen Kampf gegen die vielfaeltige Konkurrenz aus dem Nicht-Banken-Sektor gefuehrt. In dieser Hinsicht koennen die Amerikaner viel von ihren deutschen Filialen und Tochtergesellschaften lernen. Sie nehmen an einem Wettbewerb teil, mit dem vielleicht hoechsten Level des Bank- und Finanzierungssystems in Industrienationen.

Deutschland ist ein offener Markt und auslaendische Banken koennen jederzeit in diesen Markt eintreten, um alle Serviceleistungen anzubieten. Obwohl "universal" der Grundgedanke ist, haben sich die meissten Banken auf Bereiche spezialisiert. Die Grossbanken zusammen mit kleinen lokalen Sparbanken ergeben ein mannigfaltiges Bankensystem in der Bundesrepublik.

Deutschland hat eine handelsorientierte Wirtschaft, in der Export 33% des Bruttosozialproduktes ausmacht. Es bestehen keine Devisen- oder Kapitalbeschraenkungen und die Banken koennen frei auf den Weltmaerkten agieren. Auch fuer Auslandsbanken gibt es keine Wettbewerbsbeschraenkungen.

Man kann jedoch nicht sagen, dass es keine Regeln oder Kontrollen gibt. Im Bankgesetz hat die in Berlin angesiedelte Kontrollbehoerde eine ausgedehnte Machtposition. So ist es notwendig, dass eine Bank von zwei qualifizierten und erfahrenen Fachleuten geleitet wird, die ein fundiertes Wissen ueber das deutsche Bankgeschaeft haben und die deutsche Sprache beherrschen. Es gibt folgende vier wichtige Grundsaetze:

- das Aktivrisiko soll nicht das 18 fache des Eigenkapitals uebersteigen
- die Devisen sollen nicht 30% des Kapitals uebersteigen
- Langfristige Aktivposten sollen mit langfristigen Verbindlichkeiten finanziert werden
- Kurzfristige Aktivposten sollen entweder mit langfristigen oder wie in der Praxis ueblich mit kurzfristigen Kundeneinlagen finanziert werden.

Der erste Grundsatz bewirkt eine gefestigte Bilanz. Zudem sind die deutschen Banken mit ihren "large credits" an ihre eigene Kapitalausstattung gebunden.

Diese einfachen Bedingungen sind verantwortlich fuer die grosse Bedeutung der Banken im deutschen Finanzsystem, die sogar die der US Banken in Amerika uebertrifft. Die starke Position der Banken macht das deutsche Finanzsystem relativ unkompliziert. Eine geringe Inflationsrate schafft stabile Preise und begueenstigt eine Annaeherung der Banken an die Behoerden. Man soll jedoch nicht den Eindruck bekommen, dass es keine Finanzierungsprobleme gibt. Weder die gegenwaertig hohen Zinssaetze, noch die flexiblen Wechselkurse blieben ohne Einfluss; vielmehr haben sie den Trend zu kurzfristigeren Preiskalkulationen unterstuetzt.

Die Aussichten der US Banken in

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Deutschland sind verheissungsvoll. Durch den steigenden Wettbewerb sind die Kreditpreise angespannt. Die unterschiedlichen Preise ergeben sich aus der verschiedenen Buchfuehrung und den Einflussunterschieden bei deutschen und amerikanischen Banken: Deutsches Eigenkapital hat gemessen an der niedrigeren Inflationsrate geringere Gewinnbedingungen als der US Dollar, mit dem die Tochtergesellschaften ausgeruestet sind.

Die wettbewerbsfaehige Situation in Deutschland spricht fuer eine Aufhebung der einschraenkenden Bestimmungen in den Vereinigten Staaten: Ein staerkerer Wettbewerb fuehrt tatsaechlich zu groesseren Vorteilen fuer den Kunden.

US Banken in Deutschland haben zwar in bestimmten Bereichen eine einflussreiche Position erreicht, doch mit 1% Anteil am gesamten Bankguthaben in der Bundesrepublik haben sie einen sehr kleinen Anteil am Gesamtmarkt.

Die Bilanzen amerikanischer Banken, aehnlich wie bei anderen Auslandsbanken, unterscheiden sich von jenen der meisten deutschen Banken. Sie orientieren sich stark am Geldmarkt und geben 60% ihrer Darlehen an Banken, womit sie 30% am gesamten deutschen Banksystem halten. Die Passiva decken sie aus dem Geldmarkt oder ueber den Euromarkt, da dort die Zinssaetze etwas guenstiger sind. Die deutschen Banken decken zum Vergleich ihre Kapitalsumme zu 66% aus Kundeneinlagen. Auslandsbanken sind in der Regel auch staerker kapitalisiert als die deutsche Konkurrenz und haben eine starke Position im Devisenhandel.

Es ist nun klar, warum sich US Banken auf ihre Gewinne aus dem Geldmarkt und dem Devisenhandel verlassen. Seitdem sich diese Einnahmen jedoch verfluechtigen koennen, entwickeln sie kontinuierlich neue Einnahmequellen. Die Serviceangebote werden erweitert, speziell fuer Geschaeftsfinanzierungen und multinationale Gesellschaften. Ein auf der Elektronik basierender Kundenservice wird aufgebaut, und Rembourgeschaefte sind in jeder Form entwickelt. Auch haben einige US Banken kleinere Filialen ausserhalb von Frankfurt aus Kosteneinsparungsgruenden geschlossen. Ueberhaupt sind Ausgabenkontrollen immer das Ergebnis eines zunehmenden Konkurrenzkampfes.

Falls die Zukunft im US Bankgeschaeft ebenso offen und ohne Einschraenkungen ist, wie das in Deutschland der Fall ist, koennen die US Banken diese Zukunft klar und deutlich in den deutschen Filialen und Tochtergesellschaften sehen.

US Tochtergeschaeftsbanken
- American Express Bank GmbH
- Bankers Trust GmbH
- Chase Bank AG
- Chemical Bank AG
- Citibank AG

US Bankfilialen
- Bank of America
- Continental Illinois Bank
- First National Bank of Boston
- Irving Trust Company
- Manufacturers Hanover Trust Co.
- Morgan Guaranty Trust Co.
- National Bank of Detroit
- Security Pacific National Bank

Andere Banken mit US Beteiligungen
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- Heller Factoring Bank (Walter E. Heller Overseas Corp., 100%)
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Germany's Merchant Bank stays on course in 1982.

Highlights from BHF-BANK's Annual Report 1982

Consolidated Figures	in million DM
Loans to customers	13,458
Total deposits	12,178
Bonds issued	7,268
Shareholders' equity and reserves	573
Total assets	21,106

The complete Annual Report in German and summarized Annual Reports in English, French and Spanish are available on request.

Managing Partners:
Dr. Wolfgang Graebner, Dr. Hanns C. Schroeder-Hohenwarth, Wolfgang Strutz, Klaus Subjetzki, Rüdiger v. Tresckow.

BHF-BANK, Germany's Merchant Bank, achieved good results in 1982 despite extensive risk provisions and significant loan write-offs during a year buffeted by economic uncertainties worldwide.

Improvements in earnings took precedence over growth in total assets and interest surplus advanced by 27.9 %. In line with the Bank's long-term strategy to strengthen its fee-income business, the structure as a full-service merchant bank contributed to a substantial increase in commissions by 15.1 %.

International operations, particularly underwriting and brokerage activities, expanded quite considerably, while country lending was kept within reasonable limits spread over a broad geographical area. Main foreign lending was to corporate clients in industrialized nations with emphasis on short-term facilities.

The Bank also expanded its participations in specialized areas, including the formation of a subsidiary for mergers and acquisitions on an international scale. Its global presence was further extended through a branch in Tokyo which commenced operations in spring 1983.

BHF-BANK International in Luxembourg and the Group's subsidiary in mortgage lending also contributed to the satisfactory results.

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DGZ plays an important role in wholesale lending with main emphasis on syndication of DM fixed-interest loans and is free from the heavy day-to-day demands of retail banking.

DGZ's team of financial experts can therefore concentrate all their energies and know-how on the specific needs of industrial public sector clients.

The Bank's full-service branch and wholly-owned subsidiary, Deutsche Girozentrale International S.A., in Luxembourg have built an excellent reputation in Euromarket activities, foreign exchange transactions and the Eurocredit sector.

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the "small" team with big resources

Die wirtschaftliche Situation der deutschen Schaden- und Unfallversicherer und Vorschlaege zur Loesung der gegenwaertigen Probleme

by Claas Kleyboldt
Vorsitzender der Vorstaende
Nordstern
Allgemeine Versicherungs-Aktiengesellschaft

Trends und Bewegungen in den Versicherungswirtschaften der westlichen Welt lassen sich heutzutage nicht mehr auf die einzelnen Binnenmaerkte begrenzen, vielmehr greifen sie aufgrund der zunehmenden Komplexitaet der Leistungsverflechtungen verstaerkt ineinander. Aufgrund verschiedener Ursachen besteht weltweit ein Trend zu zunehmend unausgeglichenen versicherungstechnischen Ergebnissen. Dies ist nicht nur auf eine bestimmte Fachsparte begrenzt, sondern gilt fuer eine Vielzahl von Sparten, und zwar sowohl im grossgewerblichen Industriegeschaeft als auch im Breiten- und Privatkundengeschaeft.

Auch die Versicherer in der Bundesrepublik Deutschland koennen sich nicht mehr darauf verlassen, dass ihnen durch einen moeglichen konjunkturellen Aufschwung generierte Wachstumsimpulse zugute kommen, welche die latenten Ertrags- und Kostenprobleme ueberdecken und damit die dringend noetigen strukturellen Loesungen hinauszoegern. Die Gesundung der deutschen Versicherungswirtschaft muss sich vielmehr durch die Rueckbesinnung auf die Erfolgsstruktur des eigenen Geschaeftes sowie die strategische Ausrichtung auf die uns im Zuge gesellschaftlicher, technologischer und wirtschaftlicher Entwicklungen gestellten Aufgaben vollziehen.

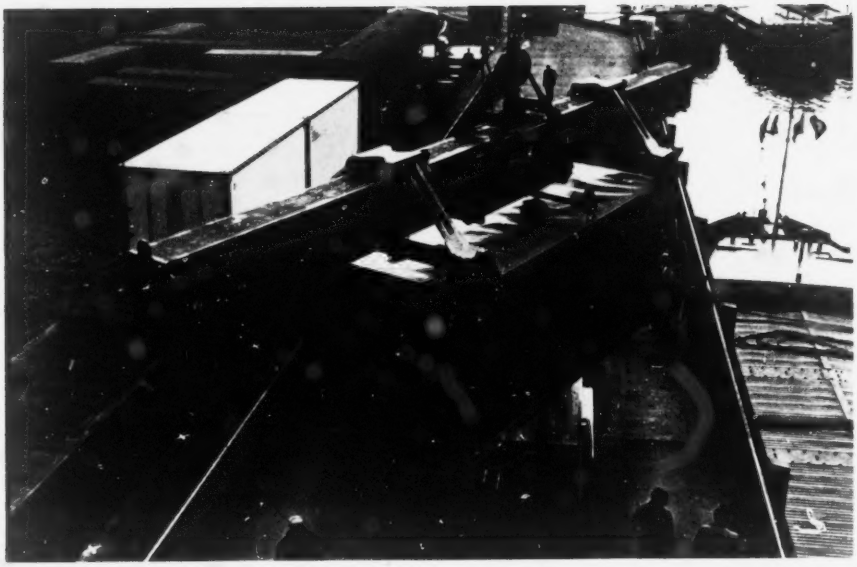
Um dem mit dem deutschen Markt nicht vertrauten Leser den Einstieg in die Probleme der deutschen Versicherungswirtschaft zu ermoeglichen, sei nachfolgend zunaechst die Ist-Situation an Hand der wichtigsten Rahmendaten dargestellt und im Anschluss daran die Ursachen fuer die gegenwaertige Situation erlaeutert. Abschliessend wird der Versuch gemacht, moegliche Zukunftsstrategien darzustellen.

In der Bundesrepublik Deutschland sind gegenwaertig 347 Sach-, Unfall-, Haftpflicht- und Transportversicherungsunternehmen taetig, bei denen insgesamt 105.000 Menschen beschaeftigt werden. Alle diese Unternehmen unterliegen der Kontrolle des Bundesaufsichtsamtes fuer das Versicherungswesen.

1982 erzielten diese Unternehmen insgesamt Beitraege in Hoehe von 41,2 Mrd DM.

Das Beitragswachstum betrug 1982 nur noch 5,5% und war damit nach dem Jahre 1974, in dem es 2,4% betragen hatte, das geringste Wachstum in den letzten 10 Jahren. Dennoch lag es knapp ueber der Inflationsrate von 5,3%.

Die 347 genannten Sachversicherungsunternehmen verwalteten Kapitalanlagen in Hoehe



von 48,2 Mrd DM. Von diesen Kapitalanlagen sind angelegt in:

- Grundstuecke 10,5%
- Hypotheken 3,5%
- Schuldscheinforderungen und Darlehen 34,1%
- Wertpapiere 40,4%
- Beteiligungen 6,8%
- Festgelder, Termingelder, Spareinlagen 3,2%
- Sonstige Anlagen 1,5%.

Dabei faellt auf, dass der Anteil der Grundstuecksinvestitionen, der 1970 noch 18,1% betrug, heute nur noch 10,5% ausmacht, waehrend die Schuldscheinforderungen und Darlehen im gleichen Zeitraum von 21,7% auf 34,1% angestiegen sind. Ursache fuer die Ruecklaeufigkeit der Investitionen im Immobilienbereich ist einmal die durch die Sozial-und Mietgesetzgebung nicht ausreichende Rendite in diesem Bereich (bei Neubauinvestitionen ca. 3 - 4%) sowie das relativ hohe Kapitalmarktzinsniveau in den letzten Jahren.

Im Auslandsgeschaeft duerften die Praemieneinnahmen der deutschen Sachversicherungsunternehmen z.Zt. ca. 2 Mrd DM ausmachen. Der ganz wesentliche Anteil stammt aus dem EG-Raum. Dabei muss gesagt werden, dass die deutsche Versicherungswirtschaft praktisch erst vor 10-15 Jahren mit der Gruendung von Tochtergesellschaften, Zweigniederlassungen oder Beteiligungsgesellschaften nach dem verlorenen Krieg wieder begonnen hat, vornehmlich in Europa und erst vereinzelt in den letzten 5 - 7 Jahren in den USA. Diese verspaetet eingesetzten Auslandsaktivitaeten der deutschen Sachversicherer haben ihre Ursache einmal darin, dass zu diesem Zeitpunkt die deutsche Industrie verstaerkt Investitionen im Ausland taetigte, und zum anderen darin, dass zur gleichen Zeit das Wachstum auf dem nationalen deutschen Markt sich verringerte und erste Anzeichen zumindest in einigen Sparten einer Marktsaettigung sichtbar wurden.

Das versicherungstechnische Ergebnis der deutschen Schaden-und Unfallversicherer war im Jahre 1981 mit 0,2% der verdienten Beitraege fuer eigene Rechnung noch knapp positiv. In der Praxis bedeutet das jedoch, dass die meisten Unternehmen im Versicherungsgeschaeft zum Teil ganz erhebliche Verluste machen. 1982 duerfte sich die Lage eher noch verschlechtert als gebessert haben.

Das Ausmass des Ertragstiefs wird aber erst dann deutlich, wenn man beruecksichtigt, dass der Gewinnanteil 1979 noch bei 2,7% und 1975 noch bei 3,7% der verdienten Beitraege gelegen hat.

Es stellt sich die Frage, welche Ursachen der unbefriedigenden Ertragssituation der deutschen Versicherungswirtschaft zugrunde liegen.

Zunaechst einmal ist auch die deutsche Versicherungswirtschaft von der seit 1973 stattfindenden weltweiten wirtschaftlichen Rezession insofern betroffen worden, als seit dieser Zeit die Nachfrage nach Versicherungsschutz sich erheblich abschwaechte bzw. in Teilbereichen stagnierte. Darueber hinaus wurde in Teilmaerkten, insbesondere des Privatkundengeschaeftes, erstmalig eine Marktsaettigung sichtbar. Die im Trend gestiegene Inflation der letzten Jahre liess gleichzeitig Schaeden und Kosten steigen. Dem versuchten die Mehrzahl der Schaden- und Unfallversicherer durch eine verstaerkte Neugeschaeftsproduktion entgegenzusteuern. Dies fuehrte zumindest bei allen Industriesparten zu einem verstaerkten Wettbewerb und, da gleichzeitig die Nachfrage nach Versicherungsschutz nachliess, zu einem enormen Preisverfall in dessen Folge eine Ver-

schlechterung im versicherungstechnischen Ergebnis notwendigerweise eintreten musste.

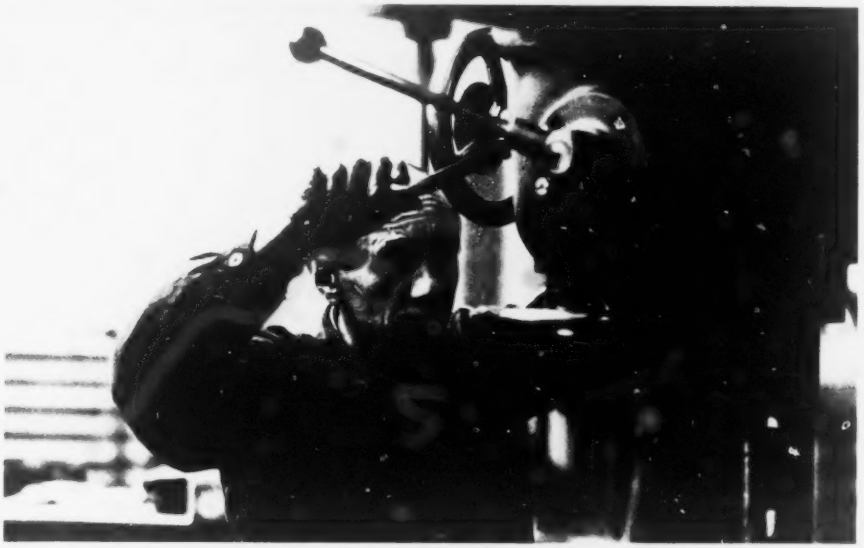
Viele deutsche Schaden-und Unfallversicherer glaubten diese nur auf Umsatz ausgerichtete Politik deshalb vertreten zu koennen, weil in Zeiten eines ausserordentlich hohen Kapitalmarktzinses sie die versicherungstechnischen Verluste durch entsprechend gestiegene Kapitalertraege mehr als wettzumachen hofften. Diese gefaehrliche und spekulative Cash Flow Underwriting genannte Politik versagte, wie bereits in der Vergangenheit, so auch in diesem Zyklus, weil bei schlagartig sich verringerndem Kapitalmarktzins, wie in den letzten 12 Monaten z.B., die dann notwendigen entsprechenden Praemienerhoehungen bei einem so ausgepraegten Ueberangebot an Versicherungsschutz und dem entsprechenden Wettbewerbsdruck nicht durchsetzbar sind.

Ein weiterer Grund fuer die Verschlechterung der versicherungstechnischen Ergebnisse liegt darin, dass sich die gesellschaftlichen, wirtschaftlichen, rechtlichen und technologischen Aenderungen auf die der urspruenglichen Praemienkalkulation zugrunde liegenden Risikofaktoren negativ ausgewirkt haben. Dieses sog. Aenderungsrisiko wird von den deutschen Schaden-und Unfallversicherern im Gegensatz zum sog. Zufallsrisiko deshalb nicht beherrscht, weil im Gegensatz zu vielen anderen Laendern z.B. fast alle Vertraege des Privatkundengeschaeftes eine 5 - 10 jaehrige Vertragslaufzeit haben. Fuer den Versicherer besteht waehrend dieser Zeit praktisch keine Moeglichkeit, die Bedingungen und die Praemiensaetze dieser 10 jaehrig laufenden Vertraege den veraenderten Umweltbedingungen anzupassen.

Am staerksten sind die deutschen Schaden- und Unfallversicherer in den letzten Jahren durch die Veraenderungen im gesellschaftlichen Umfeld betroffen worden. Die Aushoehlung des Eigentumbegriffs mit der Folge, dass ca. 50% des Schadenvolumens der deutschen Hausratversicherung, -in der neben der Einbruchdiebstahlgefahr auch die Gefahren Feuer, Leitungswasser, Sturm und Glas versichert sind-, auf Einbruch und Diebstahl entfallen, und die erschreckende Zunahme von vorsaetzlichen und fahrlaessigen Brandstiftungen, die bereits heute mehr als 1/3 der Brandursachen bei Feuerschaeden ausmachen, waren nicht vorhersehbar, als die Praemien kalkuliert wurden.

Schliesslich verschlechterten sich die versicherungstechnischen Ergebnisse, weil sich das Anspruchsverhalten und das Informationsniveau der Verbraucher in den letzten Jahren erheblich veraendert hat. Dieses Anspruchsverhalten konkretisiert sich einmal in gesteigerten Qualitaets- und Quantitaetsstandards im Schadenfall sowie in dem Versuch, Schaeden, die nicht durch die im Rahmen des Versicherungsvertrages abgedeckten Risiken verursacht wurden, auf die Versicherungsunternehmen abzuwaelzen, die ihrerseits wiederum nur mit erheblichem Kostenaufwand derartige ungerechtfertigte Ansprueche ablehnen muessen.

Es stellt sich daher die Frage, welche Schlussfolgerungen sich aus der vorangegangenen Beschreibung der heutigen Situation des deutschen Sachversicherungsmarktes fuer die Weiterentwicklung der Branche ziehen lassen.



Ausgehend von dem Prinzip der Marktwirtschaft und dem langfristigen Ziel der Erwirtschaftung von versicherungstechnischen Gewinnen, sollte die mittelfristige Strategie darauf ausgerichtet sein, die Umstaende und Voraussetzungen zu schaffen, um die gegenwaertig besorgniserregende Situation schnellstmoeglich zu veraendern.

Die zu ergreifenden Massnahmen betreffen

die Personal-, Produkt- und Vertriebspolitik. In einem abgestimmten Vorgehen auf diesen drei Gebieten koennen die wichtigsten Ansaetze fuer eine erfolgreiche mittelfristige Strategie liegen. Denkbar waeren neue Ansaetze auf folgenden Gebieten:

- Ertragsdenken vor Umsatzdenken
- Bessere Planung und Kontrolle
- Selektives Schadenmanagement
- Verringerung der Auswirkungen des Aenderungsrisikos
- Einfuehrung von Selbstbeteiligungen.

Der sich verschaerfende Wettbewerb mit der automatischen Folge der Verschlechterung der versicherungstechnischen Ergebnisse macht in der Zukunft eine staerkere Ausrichtung der Unternehmenspolitik auf Ertragsziele notwendig. Auf der Produktseite sollten Preis- und Zeichnungspolitik nicht mehr auf Umsatz "um jeden Preis" ausgerichtet werden. Statt dessen sollte der Markt seine Versicherungsbestaende mit Hilfe differenzierter Analysen nach guten und schlechten Segmenten unterteilen. Bei Segmenten mit hohen Schadenquoten koennten dann Massnahmen ergriffen werden, die auf eine Reduzierung des Umsatzes hinwirken oder die eine Deckung dieser Segmente nur zu einem ihrem Schadenverlauf entsprechenden hoeheren Praemiensatz zulassen.

Auch im Vertrieb sollten neben den bisher ueblichen "nur" Umsatzzielen vermehrt Ertragsziele im Rahmen der Verkaufsstrategien Beruecksichtigung finden. Die Leistung eines Versicherungsvermittlers koennte z.B. in der Zukunft nicht nur auf Umsatz, sondern auch an der Schadenquote und an der Schadenhaeufigkeit des vermittelten Geschaeftes gemessen werden.

Auf die Dauer wird wohl nur das Management eines Versicherungsunternehmens erfolgreich sein, das bereit ist, zu planen und zu organisieren, statt zu improvisieren. Eine erfolgreiche Unternehmensleitung sollte fuehren und agieren statt zu reagieren. Sie sollte bei der Entscheidungsfindung methodisch statt spontan vorgehen. Die Verbesserung bzw. in einzelnen Faellen wohl erst die Einfuehrung einer integrierten Unternehmensplanung sollte den gesamten versicherungstechnischen Bereich erfassen, insbesondere Schaeden, Kosten sowie die Vertriebsaktivitaeten.

In der Vergangenheit lag das Schwergewicht der Bemuehungen um eine Reduzierung des Aufwandes (Kosten und Schaeden) bei den meisten deutschen Versicherungsunternehmen in der Verbesserung der Verwaltungskostenquote durch Rationalisierungsmassnahmen.

In Zukunft duerften immer staerker die Aufgaben in den Vordergrund treten, die sich aus dem verlangsamten Wachstum der Versicherungsmaerkte ergeben, naemlich Ertragsverbesserung im Versicherungs-/Kundenportefeuille. Neben der Ausnutzung aller auch in Zukunft gegebenen Rationalisierungsmoeglichkeiten muss dem Management der Schadenquote eine zumindest gleiche Prioritaet eingeraeumt werden.

Schadenmanagement beginnt mit einer systematischen "Risikosegmentierung". Der Gesamtbestand einer Versicherungssparte sollte nicht nur pauschal als Einheit gesehen, sondern vielmehr in einzelne Segmente aufgeteilt werden, um aufgrund dieser Segmente eine dem Risikoverlauf entsprechende Preis-, Annahme- und Rabattpolitik verfolgen zu koennen. Dabei koennen Segmente nach allen im Datensatz befindlichen Kriterien gebildet werden, z.B. nach Regionen, Berufen, Vertriebswegen, Nutzungsarten und sonstigen risikospezifischen Merkmalen.

Mit Hilfe der so gefundenen unterschiedlichen Verlaufsergebnisse sollten dann sparten-

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uebergreifend attraktive Kundengruppen gebildet werden, auf deren Bedarf spezielle Verkaufspakete zugeschnitten werden. Diese kommen einmal dem Kundenbeduerfnis entgegen und geben zum anderen (schadenguenstige) Wachstumsimpulse fuer den Vertrieb.

Um die Auswirkungen des oben beschriebenen Aenderungsrisikos fuer die Versicherungswirtschaft zu reduzieren, koennte und sollte darueber nachgedacht werden, wie die bisher uebliche Vertragslaufzeit von 5 - 10 Jahren zu verkuerzen ist. Einjaehrige Laufzeiten sind in allen Industriesparten der Bundesrepublik Deutschland sowie in fast allen Auslandsmaerkten ueblich. Ist aber eine Verkuerzung der Laufzeit nicht auf Anhieb durchsetzbar, so sollten zumindest Summen- und Praemienanpassungsklauseln vereinbart werden, die der veraenderten Umwelt, wenn auch nur zum Teil, Rechnung tragen koennen.

Schliesslich kann die anzustrebende mittelfristige Ertragsverbesserung der Versicherungsunternehmen nur dann erfolgreich sein, wenn es ihnen gelingt, dem einzelnen Versicherungsnehmer Anreize zu bieten, in der gleichen Richtung zu wirken.

Dies geschieht bereits heute z.B. in der Kfz-Haftpflichtversicherung durch die nach dem Schadenverlauf unterschiedliche preisliche

Einstufung nach Schadenfreiheitsrabatten, sowie in der Industrie-Feuerversicherung durch Reduzierung des Praemiensatzes nach Vereinbarung von Franchisen.

Im Privatkundengeschaeft sind jedoch Selbstbeteiligungen bisher praktisch nicht ueblich.

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Diese sollten jedoch auch hier eingefuehrt werden, um die Eigenverantwortung des Kunden zu staerken, wobei immer als Gegenleistung gegenueber dem Tarif ohne Selbstbeteiligung eine reduzierte Praemie angeboten wird.

Diese wenigen beispielhaft aufgefuehrten Loesungsansaetze zeigen deutlich, dass die gegenwaertige Ertragsschwaeche der deutschen Sachversicherungsunternehmen behebbar ist. Erforderlich ist dabei die Bereitschaft aller Fuehrungskraefte, bisherige Denkkategorien zu ueberpruefen.

Wir alle neigen dazu, uns in die nur scheinbare Sicherheit einer Stabilitaet zu fluechten und an den bewaehrten Verfahren der Vergangenheit festzuhalten. Dabei vergessen wir leicht, dass eben diese erfolgreichen Verfahren seinerzeit als Antwort auf veraenderte Umweltbedingungen entstanden sind, also als Reaktion auf Wandel.

Wir alle wissen auch, dass zu langes Verharren zu grossen unternehmerischen Schwierigkeiten fuehren kann. Je laenger mit der Anpassung an veraenderte Umweltbedingungen gewartet wird, umso dramatischer, schwieriger und unangenehmer ist die Durchfuehrung von Veraenderungen. Stabilitaet bedeutet nicht nur Festhalten am Althergebrachten, sondern bedeutet auch, jederzeit bereit zu sein, auf Veraenderungen im Markt und in der Umwelt flexibel zu reagieren. ■

"Half of Germany's top 10 banks are Frankfurt-based. We're one of them."

Let's start with Frankfurt. Why is Frankfurt so important?

"Frankfurt ranks among the world's foremost banking and financial centers. 150 German banking institutions operate here, and Frankfurt has more international banks than any other city in Continental Europe.

The Bundesbank is headquartered here, and the Frankfurt Stock Exchange is Germany's largest, accounting for nearly half of the stock exchange transactions, two-thirds of its dealings in foreign shares and some 80 per cent of the business in foreign fixed-interest securities.

Perhaps less well-known internationally is that Hessische Landesbank is one of Frankfurt's big native-born banks. Half of Germany's top 10 banks are Frankfurt-based. We're one of them."

About the bank itself. What are its size and structure?

"With total assets of more than DM 62 billion, Hessische Landesbank is Germany's 10th largest bank, 3rd among Landesbanks. It is a government-backed regional bank with its liabilities guaranteed jointly by the State of Hesse and its Sparkassen and Giro Association. We also act as banker to the State of Hesse from which our name is derived, and perform clearing functions for the 52 local Sparkassen."

What about your service facilities?

"As a German universal bank, our facilities cover the full range of commercial and investment banking services. Internationally, we concentrate on wholesale banking and medium to long-term financing.

Recently we have also significantly expanded our money market operations, drawing on the combined facilities of our London, New York, and Luxembourg dealing rooms.

Moreover, we participate regularly in international bond, note and share issues, and perform brokerage functions for international investors. Our membership of the Frankfurt Stock Exchange facilitates dealing in quoted shares and fixed-interest securities."

And sources of funds?

"A large part of our funding is done by issuing our own bonds and SD Certificates (Schuldscheindarlehen). The total outstanding is over DM 25 billion. As well, corporations, governments, and other institutional investors consider Hessische Landesbank a prime name for large-scale deposits."

Financial Highlights	DM million	
December 31	**1981**	**1982**
Business Volume	61,980	64,638
Balance sheet total	59,063	62,271
Total credit volume	48,986	49,929
Short-term assets	15,513	16,707
Due from banks	9,200	9,668
Due from customers	6,313	7,039
Long-term lending	27,865	28,252
Lending to banks	4,517	4,192
Lending to customers	22,348	24,060
Short-term liabilities	16,573	18,593
Long-term liabilities	6,626	5,459
Bonds issued	23,747	24,994
Capital and reserves	1,196	1,241

Who are the bank's main clients?

"As a wholesale bank, our service facilities are tailored for large, internationally-active corporations, foreign governments, and financial institutions, as well as subsidiaries of international companies operating in Germany. As bankers to the State of Hesse, we support statewide and municipal programs, and work closely with Hesse's Sparkassen and their clients, for example on the foreign side."

How do you see your position developing internationally?

"Without neglecting our home base in Frankfurt, we have assembled a team of banking professionals devoted to building a strong international track record based on pragmatic banking principles, the most modern technical and support facilities, and the highest standards of client service. International banking is quite competitive, and banks that try harder for their clients and give them fast, personal service often have the edge. This is one of our major objectives."

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Life Insurance Developments in the US

by Dr. Joy Cherian,
Chairman,
Committee on International Insurance Law of the American Bar Association
Director,
International Insurance Law for the American Council on Life Insurance,
and
Robert Waldron,
Director,
New York City office of the American Council of Life Insurance

One of our western states, Oregon, is so agreeable a place to live that residents practice a form of reverse promotional activity, hoping to keep the state from becoming overcrowded.

They dwell upon its rainy climate, thus:

"People don't get old in Oregon; they rust!"

We hope that we American life insurance people won't be accused of Oregonian exaggeration, when we report to you that the climate for our business for the foreseeable future is decidedly unsettled.

But before taking the measure of the donnerwetter, let us first review the landscape and the more recent history of this business in America.

The United States is the acknowledged leading life insurance market in the world – not only in 1982 aggregates of whatever aspect you might choose –

Life insurance in Force: $4,476 trillion

- Assets of U.S. Life Insurance Companies: $588 billion
- Premium Receipts: $118 billion (including annuity considerations and health insurance)
- 1982 Purchases: $838 billion
- Levelling measures as per family ownership: $49,300.

This latter figure tends to understate the degree of commitment American families have made to life insurance ownership, since it merely divides the amount of insurance in force by the number of American families. If the in-force figure were divided by the 85-out-of-100 American families who actually own it, the per-family ownership would rise to $57,300. This is pretty close to three years of disposable income per insured family.

When it is measured against West Germany's $5600 per capita, and estimated $21,000 per family, it reflects not so much of the difference in American and West German net worth, as it does of the difference in socio-economic history.

West Germans rely on end-of-life Government arrangements that date from Bismarck; American reliance on such arrangements is not only younger – it dates from Roosevelt's second term – but that reliance is conceptualized as one leg of a three-legged stool, comprised of Government Social Security; private pension plans, and individual savings.

Thus life insurance in the U.S. is not upholstery to the family financial arrangements, it is a major structural member.

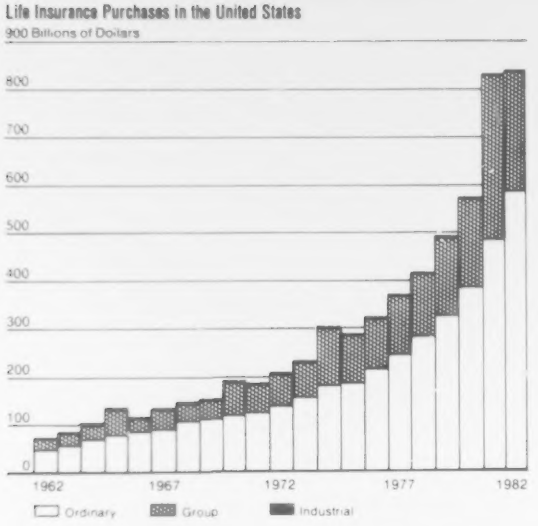
Fully 60 per cent of life insurance in the U.S. now is bought as term insurance. This reflects the youth of the American life insurance market. Term insurance, which pays its benefits only if the owner dies within the specified term period, is relatively inexpensive at young ages. Young families find it most appropriate for covering the high risk of raising children and providing education in event of a breadwinner's early death. It is not unusual for popular financial advisers in our nation's press to suggest to young couples in middling circumstances that their life insurance needs can range upwards of $250,000 if they have children.

When one considers that the cost of raising a child in the U.S. to 18 years of age is more than $25,000; that the cost of a college education is at least $40,000; that the average cost of a new home is about $70,000 and just putting food on the table runs to $7200 a year, the advice is quite realistic.

At the same time, the need for an insurance income to provide for survivor benefits at the end of life is well-understood in the U.S. Permanent life insurance, as distinct from term in-

Family financial reasoning in the U.S. which has remained unchanged in an economic world that has been otherwise violently skewed.

Life Insurance Purchases in the United States



surance, has always played a major role in American family financial planning. Its continuing need stems from the understanding that most people will survive well beyond the years when term insurance is appropriate and affordable.

An American male of age 35, for example, has a four-to-one chance of surviving to age 65 and beyond. The economics of owning life insurance is that older age, required that it be funded with a level premium from much younger ages – starting when family income has begun to improve in the early middle years and purchased in increments until a family goal has been reached. The traditional product for this permanent need has been whole life insurance. Bought at age 30, for example, its annual cost can be five and six times as high as term life insurance bought at the same age. But while term insurance costs go up as the owner ages, whole life insurance costs remain constant. Premium not needed to provide benefits for those buyers who die is reserved by the company to subsidize the rising cost of mortality of the surviving owner group as they age. The reserve attributable to each policyholder becomes an asset, which he may reclaim by surrendering his insurance. Or, alternatively, he may borrow it upon demand.

Whole life insurance prices fell an average of 32 per cent during the 1970s.

The family need for this kind of insurance also has its roots in the mortality tables. Males of age 65 have an additional life expectancy of about 14 years. Females at the same age have a life expectancy of 18 years. With an average three-year difference between husbands and wives, the typical American wife can expect to outsurvive her husband by seven years. Most permanent life insurance is bought to help finance this period of widowhood.

That economic formulation is a fundamental part of family financial reasoning in the U.S. which has remained unchanged in an economic world that has been otherwise violently skewed by double digit inflation, by the sexual revolution, by mounting divorce rates, by delayed family formation and by the reactions of both government and financial institutions to these events and developments.

To suggest that life insurance is an institution that will remain an unmoved rock in these swirling currents would be superlatively sanguine.

It has survived and grown. But it will never be the same.

The durability of high inflation rates alone during the 1970s and early 1980s gave rise to a chain of causality which can neither be denied or contained:

American depositors had always relied upon their financial institutions to perform two essential tasks for them. (1) maintain the value of their deposits and (2) maintain the balance between borrower and saver.

With deposit interest rates of four and six per cent lagging inflation rates peaking at 12 and 13 per cent, the value of deposits with such institutional intermediaries as banks and insurance companies clearly were being eroded. Many depositors disintermediated and sought investments that would at least keep them even with inflation.

As they did this, new financial tools for the doing became widely available. The mutual fund concept, in which small deposits by individuals are pooled for investment in portfolios of common stocks had been widely popularized in the 1960s. It was a means for the small investor to gain access to the kind of balanced investing previously available only to institutions and to the wealthy.

That concept in the late 70s and early 80s was now applied to currency. This gave the small depositor access to the rapidly escalating interest rates of the short-term borrowings by governments and corporations. Inflows to these so-called "money market" funds measured in the tens of billions during this period. Just as did outflows from the traditional intermediaries. Thrift institutions, such as mutual savings banks and savings and loan associations – long-standing mediators between small depositors and residential mortgage creditors – were stuck with long-term outstanding books of relatively low-rate mortgage holdings. Unable increase depositor earnings, they were particularly hard-pressed and some of them didn't survive.

Life insurance companies, contractually obliged to lend to policyholders at fixed, relatively low interest rates also watched helplessly as tides of cash flowed violently toward the exits. In one dark month, April of 1981, 15 large companies which then did about 60 per cent of the policyholder lending in the life insurance business loaned back more than a billion dollars to

their policyholders at rates of between 5 and 8 per cent.

The "prime" interest rate charged by commercial banks to their most credit-worthy corporate customers then stood at 22 per cent, and rates in the neighborhood of 14 and 15 per cent were available to individuals through money market funds.

As financial institutions rushed soberly to adapt to the new arithmetic, it became clear to observers that a new kind of depo itor – the activist depositor – had emerged like a genie from the inflation bottle. He was learning to pursue his self-interest not only in the currency markets, but in other forms of exotic investments, including collectibles, gold, commodities, selected stocks, government-backed secondary mortgage instruments, U.S. Treasury bills – anything which offered some chance of holding his own with the raging inflation rate.

Faced, despite this, with some depreciation of deposited values, many individuals sought redress from the imbalance between borrower and saver by becoming, deliberately, net borrowers. Doing so they invoked the Federal tax deductions accorded interest payments and drew the U.S. Treasury into unwilling partnerships with them.

In sum, an entire class of individual money managers were starting to take risks and perform for themselves those sophisticated financial tasks they had previously entrusted to institutions in return for guarantees against loss. They had perceived that inflation had eroded not only their deposits but those implied guarantees – and they did something about it.

In the process, they were acquiring a whole new level of economic fluency, and although inflation in the past two years had subsided, the new fluency has remained.

So, too, this new class of individual money manager, affluent and numerous, has remained to make sophisticated demands upon his institutions, and to move antically from the institution which fails his demand to the institution which doesn't.

It would take some substantial adjustments to persuade this class of depositor to re-intermediate and remain long enough for profitability to return to pre-inflation levels.

The definitive book on the behavior of the financial services consumer during this period has yet to be written, of course. All of the aforesaid is a mere journalistic account of the highlights. Its chief merit is that it explains with some plausibility the things happening now.

They fall into three classes of reaction:

- New financial service products
- A higher level of competition
- A trend toward amalgamation of financial services.

In the life insurance business, the traditional

Relative Growth in Assets of U.S. Life Insurance Companies

whole life insurance policy has not been replaced. But competing with it ever more vigorously in the life insurance marketplace are new forms of permanent insurance whose common characteristic is that they offer the buyer the prospect of higher accumulation rates in return for his accepting more risk.

First on the market was a form called "universal" life insurance. It split the integrated whole life policy into two components – an underlying element of term protection, interlinked with an accumulation fund based largely on currency rates, with the interest rate guaranteed only for about a year. Contract terms enabled the policyholder to emphasize either accumulation or protection; to vary that mixture periodically and to vary also his payment methods. Within two years of its introduction, it has captured 12 per cent of sales.

Next into competition came an older kind of policy which had languished in the doldrums of a moribund stock market since its invention in 1968. This was a permanent policy called "variable" life insurance. It guaranteed – as did

traditional whole life insurance – a fixed benefit for fixed premiums. But it also offered the prospect of additional benefits based upon the performance of an underlying fund of common stocks – rather than upon the largely fixed debt instruments that underlying the traditional policy. By 1982 the few companies which had accepted its regulation by the Federal Securities Exchange Commission, were reported spurting sales in market tests.

Within months of its market testing, the offering companies were equipping it with additional flexibilities. The buyer was being provided the choice of switching among different generic types of underlying funds – growth stocks, balanced fund stocks, mature-company stocks, even money market funds for those occasions when currency rates might perform better than any of the different kinds of stock funds.

Not on the market at this writing, but headed toward it through the regulatory process, is yet another innovation. A blend of the premium-paying choices available in universal life insurance, with the funding choices available in variable life insurance, it's called Flexible Premium Variable Life Insurance, or among those irreverent of precise nomenclature, "Son of Universal Life."

It is thought to be superior to either, in that it offers broader, more flexible funding choices, as well as the option to lower or increase benefit accumulation rates as life's needs and resources vary.

Foreign companies entering the life insurance market in the U.S. are playing by no different rules than domestic companies.

All of this innovative attention being paid the activist depositor tends to obscure a larger part of the marketplace which still relies upon its insurance companies to take the risks and guarantee the results. Something largely unnoticed was happening with the traditional whole life policy which serves this market. Its price was plunging as insurance company investment portfolio rates began to climb.

Improvement in mortality in the 1970s, particularly among middle-aged males, enabled further price declines. Finally belt-tightening on the expense side of the ledger in response to stiffer competition from the innovative products – as well as from outside the life insurance business – began to produce better price-value results.

In all, whole life insurance prices fell an average of 32 per cent during the 1970s. Some of the mutual companies during this period began to express their offerings in different terms by using dividends differently. Dividends to policyholders of a mutual company are actually returns of premium unneeded in the previous year of insurance – in short, refunds. The policyholder has the option of taking dividends as cash, as automatic premium deductions, leaving them on deposit to earn interest or using them to buy additional insurance. Aware that inflation was eroding the value of the death benefits, dividend-paying companies began incorporating the insurance-buying capacities of dividends into their illustrations of benefit results. This form of marketing produces a whole life policy generically called "executive life." With it, the price reductions – which were going unnoticed – were converted into more obvious benefit increases, with resulting sales improvements.

Stock companies, which offer a guaranteed cost policy responded by cutting costs deeply, too, improving the premium-to-benefit ratio straightforwardly. Some companies, guarding against replacement of their older policies by newer more competitive products, also upgraded the benefits of existing policies without requiring higher premiums.

At the same time the life companies moved through the state regulatory process to index the loan rates of new policies to prevailing corporate loan rates – an initiative which would, in future, insulate them from the high cash outflows they experienced at the beginning of the decade.

Meanwhile, a political bias against excessive regulatory practices was receiving expression in the financial services field. The leading elements of the industry – banking, insurance and investment services – were all converging into each other's territories – driven at least in part by the larger firms trying to capitalize on their major investments in computerized operations. The computerized capacity to offer individuals a variety and amalgamation of financial services, to offer choices and changes among choices upon demand, and to maintain orderliness among the tens of millions of resulting transactions was providing not only product innovations. It was also enabling incursions across the lines which had traditionally divided the three major elements. This is now giving rise to public policy issues over the proprieties of these developments.

Or to put the matter in other words: invention was becoming the mother of necessity and the question was whether the consumer of financial services would really benefit from this reversal in the natural order of things. The most insulated of these divisions, between banking and other financial services, had been drawn decisively in the Great Depression. It was done both to protect the banking institutions from the prospect of failure inherent in a free market, and to protect non-banking commercial enterprises from the superior bargaining position of an institution that could offer or withhold credit.

Not surprisingly the legislative initiative for eliminating this structural division came from the banking industry, who argued the case for "bank deregulation" in the name of improved competition. The argument is far from mature – indeed positions among the contending parties are only now being clearly drawn.

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But the opening moves of what is now loosely labelled "financial services integration" have not only produced sharper competition among insurance companies themselves – but a sense that they must compete also for an appropriate share of the total discretionary savings dollar, lest it be attracted outside of the insurance business.

All of this has shaved profits so close in some areas that it has added another charge of fuel to the integration process. The reasoning goes this way: If a large number of depositors remain activist, switching among not only funding choices but among institutions within the financial services area, why not provide under one institutional roof all of the financial tools he is likely to want? That way, when the dollar is transferred instrument to instrument, it will not be lost to the institution. It will remain long enough to produce both profit and lend stability to the capital formation process. On paper, the proposition has a certain elegance. Whether it can be translated to both profitable and prudent practice is the unresolved question.

Two other issues – one nearing settlement, another not – trouble the life insurance waters. The first is federal taxation. Early in the 1970s, inflation and rising investment income distorted the formula under which mutual life insurance companies were taxed. This led to a new temporary formula which restored the balance of taxation within the business. Upon expiration of the temporary approach at the end of 1983, new comprehensive tax approaches for a period threatened to split the solidarity of the business in seeking to limit its tax burden to a competitive share in terms of other businesses.

A newly developed compromise approach, satisfactorily if not perfectly balanced between the stock and mutual life insurance companies, is now formulated and shows promise of being accepted by both Congress and the business. It will result, overall, in considerably higher taxes for the business, and while it may level the playing field among the insurance companies, it has yet to be demonstrated that it will not weaken the competitiveness of the business with other financial services.

The other issue is more emotional than rational. Which is to say that it is more powerful. Feminists in the United States have rallied to the notion that because insurance prices for the different sexes are different, they are unfair.

In life insurance, the issue focusses on the mortality tables, which tell us that women on the average, outlive men on the average. From birth, the difference is eight years of additional life expectancy for women. This affects the life insurance rates for women. They are lower. From age 65, the difference in life expectancy between the sexes is four years. This affects annuity rates for women. They are higher.

Pension benefits resulting from employment, however, were little affected by these differences because about 85 percent of private pension plans in the United States are gender blind. Since last summer, the difference in pension payments to women in the remaining plans were wiped out by a Supreme Court decision which held that the 1964 Civil Rights Act, which affects employment, required equal monthly payments to women, despite the life expectancy difference. But the Court also held that its decision does not affect the individual marketplace.

The feminists are now focussing on that marketplace and should they succeed in lobbying through a law which would require equal rates for the different levels of risk, considerable distortion will ensue in the individual insurance marketplace – even if the law applies only to future contracts. As written now, the proposed law would apply also to existing policies, requiring, in effect, a multi-million-dollar readjustment in benefits, with little likelihood of recovering those adjustments from policyholders.

The irony of the issue is that if the feminist initiatives are successful, the cost of life and auto insurance for women will rise, with a lower amount of tradeoff for women in the way of lower annuity and health insurance rates. Most health insurance is already gender-blind because it is provided by employer-employee groups. The retroactive costs that insurance companies would have to bear in equalizing benefits would translate preponderantly into benefits for men.

Despite the laundry list of serious problems and unsettling developments, foreign companies

entering the life insurance market in the U.S. are playing by no different rules than domestic companies. There are no competitive disadvantages imposed either by state regulations or federal tax laws. Administrative delays in licensing and product approvals for foreign and domestic companies fall equally in both.

Near saturation of the market, if it poses a problem for foreign companies, poses no less of one for domestics.

Perhaps the least cumbersome approach to entrance into the U.S. has been outright purchase, or taking a senior equity position in an existing U.S. company.

A number of European companies have done this already – as has one Japanese company.

Regulation in several states discourages the licensure of foreign government-operated life companies, but even this discouragement – which would affect only that relatively small percentage of the West German life insurance business conducted by government-operated companies – is not total.

Unfortunately, despite a growing interest by U.S. companies in entering the global marketplace as a direct writer, U.S. life insurance does not receive the same welcome abroad. Excessive bureaucratic delays, unequal tax treatment between foreign and domestic companies, special economic and employment requirements for foreign companies, all of these contribute to a sense of stern resistance to competition from U.S. companies.

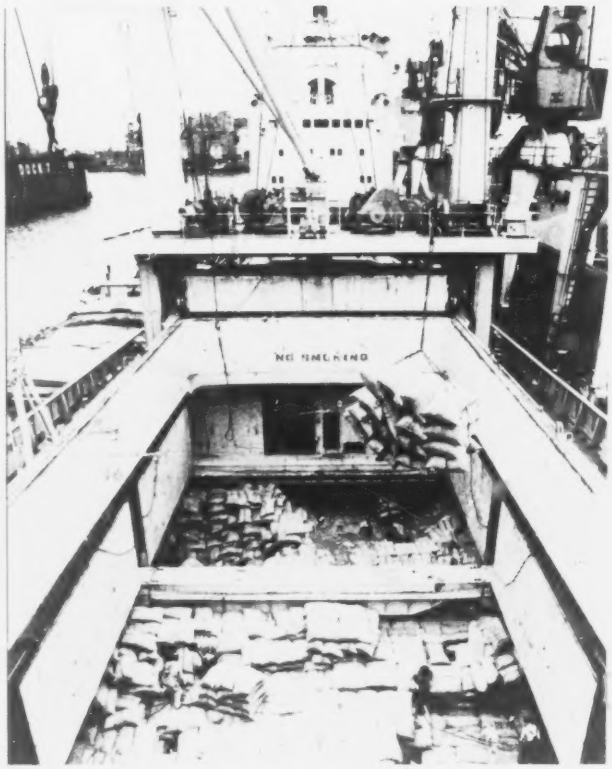
Despite this, a 1982 survey shows that 58 member companies of the American Council of Life Insurance were engaged in life insurance operations in 80 countries generating a premium income of $1.75 billion. Another survey result showed that at least 100 companies are examining the prospects of overseas operations.

Not surprisingly, Europe is the dominant market for the 58 companies already engaged overseas, accounting for $1.46 billion of the premium income volume in 1981.

Most of this business is through direct operations, but it represented a bare 0.7 per cent of total premium receipts by U.S. companies in that year. Even so, this volume was three times higher than in 1976 and on an annualized basis, it represented a 19 per cent growth rate.

So there is both a growing business and a burgeoning interest in it, not just by American life insurance companies, but by the U.S. Government itself, whose Department of Commerce is developing a number of initiatives aimed at levelling trade barriers in all of the service areas.

Meanwhile, the life insurance business' major trade associations, the American Council, has put into place a Committee on International Life Insurance to advise its members about overseas operations. This committee also monitors Federal legislative and regulatory initiatives affecting business abroad; contributes technical aid to U.S. Government and State regulatory authorities working with OECD, UNCTAD, and GATT; analyzes and informs members of developments abroad; serves as a clearing house of legal, economic and other pertinent information about overseas business.



Most U.S. observers are fairly sympathetic to the difficulties of the EEC in establishing the rules and criteria for free trade of financial services among themselves. But they are also concerned about a posture which welcomes imports in their own market; while exports continue to be resisted.

So far, efforts to correct this imbalance have focussed positively on eliminating – to the extent possible – barriers overseas. It would be unfortunate for all involved if that focus were to shift toward matching overseas barriers with our own.

But in the meantime, the message on this side of the ocean is "Welcome to Oregon – Bring Raincoats." ■

DEUTSCHE ZUSAMMENFASSUNG

Die Vereinigten Staaten sind auf dem Gebiet der Lebensversicherungen der anerkannt fuehrende Weltmarkt, mit einem Eigentum von $ 49.300 pro Familie. Der Vergleich mit dem deutschen Pro-Kopf-Wert von $5.600 und dem geschaetzten Familienwert von $20.300 ist im Nettovergleich kein alizugrosser Unterschied, wie man ihn aus der sozialwirtschaftlichen Geschichte eventuell erwarten koennte. Die westdeutschen Vereinbarungen ueber den staatlichen Versicherungsschutz bis an das Lebensende gehen in die Zeit von Bismarck zurueck. Das amerikanische Vertrauen in solche Vereinbarungen ist nicht nur viel juenger, sondern auch nur als ein Bein eines dreibeinigen Stuhles anzusehen. Es ist ein Zusammenschluss von staatlicher Sozialversicherung, privaten Pensionsplaenen und individuellen Ersparnissen.

Volle 60% der Lebensversicherungen in den USA sind heute als Risikoversicherungen (Kurzversicherung, Versicherung auf Zeit) abgeschlossen, bei der Versicherungsleistungen nur dann ausbezahlt werden, wenn der Besitzer innerhalb einer bestimmten zeitlichen Periode stirbt.

Die Argumentation fuer Familienfinanzierungen blieb in einer sich aendernden wirtschaftlichen Welt unveraendert, die mit zweistelligen Inflationsraten stark verdreht, durch eine sexuelle Revolution, durch extreme Ehescheidungskosten, durch zeitverschobene Familiengruendungen und durch Reaktionen auf diese Entwicklungen von beiden, Regierung und Finanzinstitutionen, sich sehr stark veraendert hat.

Die anhaltend hohen Inflationsraten waehrend der 70er und fruehen 80er Jahre ergaben bei einer Reihe von Kausalzusammenhaengen einen Anstieg, der weder verleugnet noch eingedaemmt werden konnte.

Die Habenzinssaetze liegen 4-6% hinter den Inflationsraten von 12-13%, so dass Einlagenwerte bei institutionellen Zwischenhaendlern wie Banken und Versicherungen deutlich abgenommen haben. Viele Geldgeber haben ihr Geld auf eine Weise angelegt, dass die erzielten Zinssaetze der Inflationsrate entsprechen. Dadurch ergaben sich neue finanzielle Moeglichkeiten.

Lebensversicherungsgesellschaften sind vertraglich verpflichtet, den Versicherungsnehmern Darlehen zu relativ niedrigen Zinssaetzen zu gewaehren und koennen nicht vermeiden, dass Bargeld in grossen Mengen von ihren Konten abgebucht wird.

Eine neue Klasse von Geldmanagern hat begonnen, Risiken zu uebernehmen, und leisten diese ausgefeilten Finanzaufgaben, indem sie voruebergehend die Gelder den Institutionen anvertrauen und als Gegenleistung kein Verlustrisiko haben. Diese Klasse der wohlhabenden und zahlreichen Manager hat auch weiterhin hohe Forderungen gegenueber ihren Institutionen.

Im Geschaeft der Lebensversicherungen konnte die traditionelle Lebensversicherungspolice bis jetzt nicht ersetzt werden. Jedoch ist ein sehr lebhafter Wettbewerb im Lebensversicherungsgeschaeft durch eine neue staendige Versicherungsform eingetreten, deren uebliche Charakteristik es ist, dass dem Kaeufer fuer die Uebernahme eines groesseren Risikos hoehere Gewinnansammlungsraten in Aussicht gestellt werden.

Diese einfuehrende Aufmerksamkeit wurde durch aktivere Einzahlungstendenzen bezahlt, die unverstaendlicherweise einen grossen Teil jenes Marktes einnehmen, der Risiken nimmt und Sicherheit gewaehrleistet. Etwas weitgehend Unbeachtetes geschah mit den traditionellen Lebesversicherungen, die diesen Markt bedienen. Es gab zu dem Zeitpunkt einen Preissturz, als der Wertpapierbestand der Versicherungen begann groesser zu werden. Im Ganzen fielen die Lebensversicherungspreise um durchschnittlich 32% waehrend der 70er Jahre. Einige der Versicherungsvereine reagierten in dieser Zeit schnell mit einer Angebotsvergroesserung, indem sie verschiedene Laufzeiten mit unterschiedlichen Dividenden anboten.

Gleichzeitig bemuehten sich die Versicherungen um eine Lockerung der staatlichen Verordnungen, damit die Zinsen gegenueber den Lohnraten konkurrenzfaehig bleiben koennen; eine Initiative, die Versicherungen von den grossen Geldabfluessen verschonen sollte und erste Erfolge Anfang dieses Jahrzehnts hatte. In der Zwischenzeit erhielt eine politische Befangenheit gegenueber uebertriebenen Aufsichtsgewohnheiten ihren Ausdruck auf dem Gebeit der Finanztaetigkeiten.

Diese oeffnende Bewegung der Versicherungen mit der einfachen Bezeichnung 'Financial services integration,' hat nicht nur zu einem schaerferen Konkurrenzkampf unter den Versicherungsgesellschaften gefuehrt; vielmehr stehen die Versicherungen auch im Wettbewerb um einen Anteil am frei verfuegbaren Spardollar, um Kunden ausserhalb des Versicherungsgeschaeftes anzuziehen. All diese Aktionen haben die Gewinne in manchen Bereichen so vermindert, dass eine weitere Gebuehr erhoben wurde, um diesen Integrationsprozess weiter zu unterstuetzen.

Zwei weitere Kernpunkte betreffen die Lebensversicherungen. Zum einen die staatliche Steuergesetzgebung. Hier muss ein neu entwickelter Kompromiss erst noch beweisen, dass dadurch nicht die Konkurrenzfaehigkeit der Branche zu anderen finanziellen Dienstleistungsunternehmen beeintraechtigt wird.

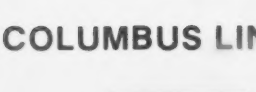
Der zweite Punkt ist von groesserer Bedeutung. Feministinnen der USA haben sich zusammengeschlossen und sind der Meinung, dass es eine unfaire Geschaeftspraktik ist, wenn die Versicherungspreise fuer die beiden Geschlechter unterschiedlich hoch sind. Bei einem moeglichen Erfolg des Antrags auf Gesetzesaenderung waeren die gleichen Raten fuer ein unterschiedliches Risiko zu zahlen, woraus sich eine erhebliche Verzerrung fuer den individuellen Versicherungsmarkt ergeben wuerde—auch falls das Gesetz nur die in Zukunft abgeschlossenen Vertraege betreffen sollte.

Trotz dieser langen Liste von Problemen und noch nicht absehbaren Entwicklungen, gehen mehr auslaendische Versicherungsunternehmen verstaerkt in den US-Markt und haben die gleichen Geschaeftsbedingungen wie amerikanische Gesellschaften.

Bestimmungen zur Lizenznahme von staatlich gefuehrten Versicherungsgesellschaften in verschiedenen Bundesstaaten schreckten einige Unternehmen ab. Doch gerade diese Abschreckung—die nur einen relativ kleinen Anteil der westdeutschen Versicherungsgesellschaften trifft, die verstaatlicht sind—ist dadurch kaum von Bedeutung.

US-Lebensversicherungen werden im Ausland nicht im selben Ausmass begruesst. Uebertriebener buerokratischer Zeitverlust, eine ungleiche Steuerbehandlung zwischen Auslands- und Inlandsversicherungen und spezielle Wirtschafts- und Beschaeftigungsbedingungen fuer Auslandsgesellschaften tragen zu dem harten Widerstand gegen einen Wettbewerb der US-Unternehmen bei.

Company Profiles



PROFILES

Founded in 1968, ABD SECURITIES CORPORATION is an American investment banking firm with corporate headquarters in New York, and regional offices in Boston, Chicago and Los Angeles. It was one of the first foreign-owned investment firms established in the United States. Two major European banks – Dresdner Bank AG and Bayerische Hypotheken-und Wechsel-Bank AG share the common stock of ABD.

ABD employs about 90 professionals and staff employees in all areas of the investment banking business.

ABD serves the financial needs of European and other international corporate, institutional and individual investors who wish to purchase American securities, obtain American capital financing or operate in the United States and also serves American investors with similar objectives in foreign markets.

Its extensive range of coordinated financial services include institutional services and trading; investment information and research; portfolio management for individuals and institutions; underwriting and international corporate finance.

ABD's primary objective is to service the unique requirements of each client . . . no matter how specialized those needs may be. Its various divisions consistently coordinate their efforts toward a single goal: superior long-term investment results.

The Corporate Finance Division can create investment opportunities for multinational companies or those who intend to become international. It offers a complete spectrum of investment banking services, and has completed numerous transactions in three primary corporate finance areas: establishing a subsidiary of a joint venture; formulating mergers, acquisitions and tender offers; and raising long-term capital.

It can provide valuable assistance to foreign or American companies interested in establishing or expanding international operations. ABD can help create a business structure or a joint venture suited to the market; determine the most logical location for a new plant; obtain financing, and negotiate the lease or purchase of real estate.

ABD's Portfolio Management Department offers investment counseling and fund management services for both institutional and individual investors including discretionary management, advisory management, and all depository functions including safekeeping of securities, collection and payment of income, and other special services as required by individual and institutional clients. Financial reporting may be adapted to meet varying specific legal requirements. All client accounts are included in a regular monthly review and reporting system.

ABD owns memberships on major United States stock exchanges and combined with its long-standing European relationships and other foreign market contacts, possesses numerous outlets for large block transactions – and can assure institutional and individual investors fast and efficient execution of their orders.

ABD is an important underwriter for public offerings made by major corporations in the United States and in foreign markets, and also serves as Broker/Dealers on numerous equity markets in the Western World; and provides trading, execution and clearance functions for institutional and private clients – on a worldwide basis.

AGFA-GEVAERT

AGFA-GEVAERT, INC., headquartered in Teterboro, N.J., is the American subsidiary of Europe's largest photographic enterprise, the Agfa-Gevaert Group. Since 1964, when the two European companies Gevaert Photo-Production NV (Belgium) and Agfa AG (West Germany) merged, the firm has been a leader in the photographic field.

Marketing over 3,100 products, Agfa-Gevaert manufactures: film, processing chemicals and equipment for the graphic arts field; B&W and color film, cameras, B&W and color papers and photo-finishing equipment for the consumer/professional line; medical and industrial X-ray films; motion picture film; microfilm; and magnetic (audio and visual) recording tape.

Agfa-Gevaert has sales and distribution branches nationwide and offers varied training programs to both customers and dealers. With special emphasis on service and technical training, Agfa-Gevaert has established a solid reputation throughout the world.

AMK Berlin

The AMK BERLIN-Company for Exhibitions, Fairs and Congresses is both organizer and action agency. It is divided into a Central Management Division, plus three Operating Divisions: Congresses and Conventions, Fairs and Exhibitions, Entertainment.

Its catering subsidiary is the AMK Berlin Gastronomie GmbH, under the management of Kempinski Congress GmbH.

The AMK Berlin is also the organization responsible for official participation by the Federal Republic of Germany and Berlin (West) at events abroad.

The AMK Berlin is renowned for long-standing expertise in the international convention industry. With its facilities – the ICC Berlin, the Berlin Fairgrounds, the Deutschlandhalle and Ice Sport Palace, as well as the Film Fair Center – the company offers a full range of options and all-round support services.

For planning and implementing events too, the AMK Berlin provides full and comprehensive services. Experienced staff in all three Operating Divisions are available to advise and assist sponsors.

The AMK Berlin is organized on a project basis. Congresses and conventions, fairs and exhibitions, as well as entertainment events are planned and implemented by special AMK Berlin project teams working in conjunction with the advisory committee or trade and industry association involved.

Shareholders of the company are the State of Berlin, the Berlin Chamber of Commerce and Industry, the Berlin Marketing Organization Ltd., the Association of Berlin Electrical Manufacturers, and the Federation of the Structural Engineering, Tool-making and Mechanical Engineering Industries (WEMA).

The AMK Berlin is represented by agents in more than 35 countries worldwide.

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AMERICAN HOECHST CORPORATION, headquartered in Somerville, N.J., achieved sales of $1.5 billion in 1982.

The diversified chemicals, plastics and pharmaceutical producer doubled its sales in the last five years—a feat few other American chemical companies have achieved in that period.

Hoechst-Roussel Pharmaceuticals Inc., a subsidiary, markets Lasix® , (furosemide), a diuretic, one of the ten most prescribed drugs in the country; Claforan® , one of the newest antibiotics; and Streptase® , (streptokinase) which has been called a major breakthrough in treating heart attack victims. In addition, Hoechst-Roussel has approximately 25 other new drugs in various stages of investigation.

Hoechst Fibers Industries Division, producer of Trevira polyester fibers, is one of the largest producers in the country.

The Petrochemicals Division is a major producer of styrene monomer and high density polyethylene to the plastics industry.

The Plastics Division is one of the few suppliers of six different plastics in the country, including polystyrene, high density polyethylene, nylon 6, ultrahigh molecular weight high density polyethylene and PTFE (used to coat metals to prevent sticking).

The Film Division markets rigid polyvinyl chloride film and sheet, polyester film, polypropolene sheet, polarized film laminates and thermoformed containers.

The Industrial Chemicals Division supplies a wide range of organic and inorganic chemicals and intermediates, dyes for natural and man-made fibers, pigments, textile chemicals, specialty chemicals, waxes, lubricants, resins, and plastic additives.

The Technical Information Systems Division is one of the largest manufacturers of presensitized offset printing plates in the country. It also markets photo-resists for the electronics industry, and laser platemaking equipment for the graphic arts industry.

The Agricultural Division supplies products for crop protection including Hoelon® 3EC pesticide, and Compleasal(R) fertilizer.

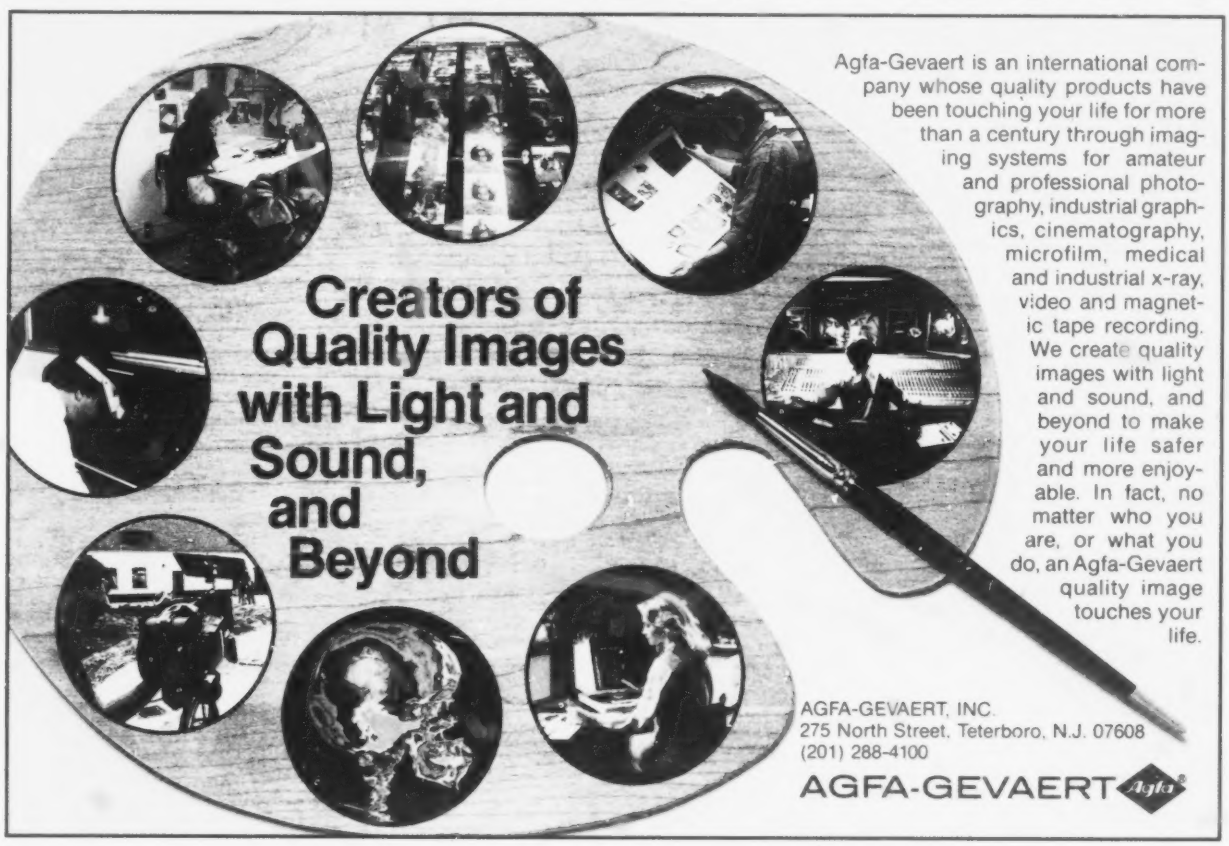
The Animal Health Division provides pharmaceuticals for animals' health including Panacur(R) for horses, and Flavomycin(R) (bambermycins) the only antibiotic designed for the exclusive use in farm animals to promote growth.

Calbiochem-Behring, another unit, markets diagnostic reagents and research biochemicals.

ARTHUR ANDERSEN & CO
SOCIETE COOPERATIVE

THE ARTHUR ANDERSEN WORLDWIDE ORGANIZATION is one of the largest international financial services organizations, providing a full range of professional services in accounting and auditing matters, tax compliance and planning, and management information consulting to more than 82,000 clients.

Since its founding 1913, Arthur Andersen's guiding principle has been the assurance that all partners have a similar interest in servicing the firm's clients everywhere in the world. In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keeping with this tradition, in 1978, the firm created a Societe Cooperative, domiciled in Geneva, Switzerland, to coordinate the worldwide services of Arthur Andersen & Co. This Societe Cooperative, which is controlled by all partners in the national practice entities throughout the world, assures consistently high quality client services in terms of professional practices and standards.

Accounting and Auditing – Arthur Andersen has always taken a business approach to its audit assignments and accounting services. All professional personnel are first trained to develop an understanding of the client's business and operating objectives. Recommendations regarding management systems are developed within this framework. Using this business approach, the firm renders specialized assistance in the accounting and financial aspects of seeking and evaluating potential acquisitions, locating plants and other facilities, and other contractual relationships.

Tax Services – Arthur Andersen's tax practice is supported by the world's largest nongovernmental body of full time tax professionals. Tax personnel in each office are totally familiar with local tax matters as well as important concepts of international tax planning and the intricacies of international tax treaties. Through sharing of experience, communications networks and worldwide research facilities, the firm offers fully integrated tax advice on such matters as organization structure, cross-border trading, transnational acquisitions, mergers and other undertakings. Similarly, the tax practice is well positioned to assist expatriates in their individual tax planning and compliance.

Management Information Consulting – For more than 35 years Arthur Andersen has helped clients meet their business information needs. The Management Information Consulting Practice has grown into the largest international consulting organization of its kind, with over 5,200 professionals in 40 countries. Consulting professionals design and install information systems and conduct analytical studies to provide the information executives need to effectively plan, evaluate and control their financial, marketing, information processing and other operations.

Associated European Capital

ASSOCIATED EUROPEAN CAPITAL CORPORATION (A E Capital) is a U.S. investment banking company which is jointly owned by Bayerische Vereinsbank AG (Munich) and Creditanstalt-Bankverein (Vienna). The company is registered with the Securities and Exchange Commission and is a member of the National Association of Securities Dealers and the Securities Investor Protection Corporation.

The principal activities of A E Capital are concentrated in the area of corporate finance, with limited underwriting and securities transactions. In particular, A E Capital focuses on the development of creative solutions to complex or unusual financing or investment problems of corporate clients. In doing so, A E Capital has assumed a leading position among the foreign affiliated investment banks in the United States.

In the last three years, A E Capital has been retained as exclusive financial advisor on corporate finance transactions involving the raising of more than $1 billion of funds in the United States and Europe through conventional and innovative corporate finance techniques and instruments. This amount does not include A E Capital's participation in the traditional syndication of debt or equity securities.

Corporate clients are offered a full range of financing and financial advisory services with respect to, among others: sale of debt and equity instruments in domestic and foreign capital markets through private placements or public offerings, mergers and acquisitions (direct investment, joint ventures); leasing (guideline, leveraged, tax benefit transfer); tax-exempt financing (Industrial Development Bonds, Pollution Control Bonds); project finance; venture capital.

A E Capital has established a reputation for the design and implementation of innovative debt structures, such as the Currency Hedged Bond, which was cited by *Institutional Investor* in 1982 as "Deal of the Year". More recent has been the successful launching of a zero-coupon secured convertible debt issue for a U.S. high technology emerging growth company and successful advisory work for major European capital equipment manufacturers who have to combine technical with financial offers to sell their products in the U.S.A.

Atlantic Capital Corporation

ATLANTIC CAPITAL CORPORATION, originally established in 1970, is a U.S. investment banking firm, wholly owned by Deutsche Bank AG. Atlantic Capital employs about 100 professionals and staff employees.

The corporate finance activities of Atlantic Capital include: the management of debt and equity public security offerings in the U.S. and international markets; the private placement of debt securities with U.S. and non-U.S. institutional investors; advising European companies in making acquisitions of U.S. companies; specialized corporate financings, such as tax-exempt Industrial Revenue Bonds and Pollution Control Bonds to finance plant and equipment in the U.S.; lease, leveraged lease, and currency hedge financing and financial advisory services, especially in connection with corporate acquisitions in the United States.

In the last five years Atlantic Capital has managed or co-managed well over 250 different transactions including U.S. private placements, public offerings, Industrial Revenue Bond offerings, Pollution Control financings, lease financing and Euro-bond financings. In addition, the firm served as a financial advisor to numerous European companies which made acquisitions of U.S. public and privately owned corporations.

The underwriting activities of Atlantic Capital consist of participations in most domestic and international syndicates, formed for the distribution of securities. In the past two years, Atlantic Capital participated in 570 public offerings, underwriting a total well in excess of 600 million dollars. These commitments were placed with financial institutions around the world.

The Stock Trading Department makes a market, trades as principal, and has an important agency order execution capability in American securities. Since December 1982, Atlantic Capital has been a member of the New York Stock Exchange, where the firm now executes the majority of its orders. The firm is also a member of most regional stock exchanges.

The Bond Trading Department makes active markets in U.S. domestic debt securities with special emphasis on "Yankee Bonds" and "Eurobonds," dealing with a broad range of institutional investors, who are serviced by a special bond sales group.

The firm's Money Management Services cater to private and institutional clients, including U.S. Pension Funds, desiring to have the U.S. Dollar portion of their assets managed and supervised on a discretionary basis.

The International Department markets non-U.S. dollar instruments, especially those denominated in Deutsche Marks, to institutional clients who seek international portfolio diversification.

ACL

ATLANTIC CONTAINER LINE is an international company formed by six major European shipping companies to provide a developing through-transport service between Europe

and North America.

In 1965 Atlantic Container Line was formed by three Swedish Companies – Wallenius (the world's largest sea carrier of motor cars), the Swedish American Line and the Transatlantic Steamship Company Limited – and the Holland America Line of Rotterdam. These companies were later joined by the French Compagnie Générale Transatlantique (CGT) and the British Cunard Steamship Company. Late in 1974 the Brostrom Group of Sweden acquired the transport division of Holland America Line. Their ACL share is now owned and managed by Intercontinental Transport (ICT) BV, Dutch subsidiary of the Brostrom Group. A further development occurred in 1976 when the three vessels of Care Line – owned by CGT, SAL and Wallenius – became fully integrated into the ACL fleet.

The six companies of the group are: Compagnie Générale Maritime (CGM) (France); The Cunard Steamship Company Limited (United Kingdom); Intercontinental Transportation (JCT) BV (Netherlands); Swedish American Line (Sweden); The Transatlantic Steamship Company Limited (Sweden); and Walleniusrederierna (Sweden). Atlantic Container Line was formed initially to enable these companies to meet together the high capital investment involved in building, operating and developing a fleet of roll-on/roll-off containerships on the North Atlantic.

The group owed much of its initial impetus to the Wallenius company which had conceived the idea of building a fleet of large and fast roll-on/roll-off cargo and car carriers for transatlantic service. When Atlantic Container Line was formed, a technical committee with representatives from all participating companies was organized to deal with the construction of ACL vessels.

While containerization would form an important part of the Atlantic Container Line service, it was recognized from the start that shippers would need cargo handling and carrying capacity for goods that could not be containerized, or for goods that could be handled better and less expensively by not being containerized. The company's purpose in developing a combined roll-on/roll-off container fleet was to provide a fast, efficient and economically attractive general cargo service that includes motor cars.

ACL first introduced Ro/Ro to the U.S.-North Atlantic trade in 1967. It currently operates ten fast modern Ro/Ro container ships direct from the U.S. east coast to eight major ports in the United Kingdom, France, the Netherlands, Belgium, West Germany and Scandinavia. With rapid load and unload capabilities, ACL's vessels offer eight to twelve hour turn-around and three-times-a-week sailings from U.S. ports.

Audi

Both PORSCHE and AUDI are recognized internationally as excellent automobiles – Porsche as the finest of sports cars and Audi as a line of high quality luxury sedans and sports coupes.

Although Porsches and Audis are sold all over the world, the Porsche Audi franchise is unique to the United States – only here are these two fine cars marketed together. Even though Porsche and Audi automobiles are quite different in styling, function and purpose, their buyers have much in common. Both Porsche and Audi owners are well-educated, affluent, and purchase their cars for reasons over and above basic transportation.

Porsches and Audis are manufactured in West Germany. A wholly-owned subsidiary of Volkswagenwerk AG, Audi is headquartered in Ingolstadt, a Bavarian village just north of Munich, and Audi factories are located in Emden and Neckarsulm as well as Ingolstadt.

Porsche, however, is an independent, family-owned company based in Stuttgart.

Importation of Porsche and Audi vehicles and replacement parts and accessories is handled by the Porsche Audi Division of Volkswagen of America, Troy, Michigan. In addition to responsibilities directly related to importation,

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When your cargo has to get across the North Atlantic fast, on time, and without a scratch, call on Atlantic Container Line.

We've got thousands of containers strategically placed all over the country. More direct calls every week to Antwerp, Bremerhaven, Gothenburg, Greenock, Le Havre, Liverpool, Rotterdam, and Southampton. And streamlined systems for clearing cargo.

One phone call can turn ACL's time and money saving advantages into a complete door-to-door delivery service for your cargo.

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the Porsche Audi organization presides over dealer operations and develops long term market strategies. The Porsche Audi Division also provides the following support:

1. Development and execution of national sales and marketing programs including all advertising and sales promotion.
2. Implementation of sales and service training programs.
3. Maintenance of inventory control of replacement parts.
4. Preparation and distribution of technical and sales literature.
5. Conducts other activities to ensure the continued success of Porsche and Audi in the United States market.

The wholesale organization in the United States consists of four Porsche Audi regional centers and three independent distributors, each responsible for retail operations in a specific geographical area of the country. The retail organization in the United States consists of more than 300 Porsche Audi dealers as well as over 100 authorized dealers who sell and service Audi.

During the 1982 calendar year, the Porsche Audi organization sold over 60,000 vehicles. The sales organization expects this number to approach 70,000 units for 1983 and 80,000 units in 1984.

BfG Bank für Gemeinwirtschaft

Established in 1958 with headquarters in Frankfurt, BfG operates as a commercial bank, offering its customers a complete range of 'universal' banking services. With consolidated assets of DM 56.4 billion at the end of 1982 the BfG Group ranks among the ten top largest private German banks. It has a staff of 8,000 and maintains a domestic network of over 250 offices throughout the Federal Republic of Germany and West Berlin.

In recent years, BfG has also expanded its international banking activities, supported by its subsidiary BfG:Luxembourg, branches in Hong Kong, London, New York and Cayman Islands as well as associated banks in Amsterdam and Basel. A representative office is also maintained in Sao Paulo.

BfG's shareholders are German trade unions which hold directly or indirectly 99.5 percent of its capital through Beteiligungsgesellschaft fuer Gemeinwirtschaft, a holding company with major interests in Volksfuersorge Lebensversicherung AG, West Germany's second largest insurance company; Neue Heimat Staedtebau GmbH; Co-Op AG, and several other important companies.

BHF-BANK

BERLINER HANDELS- UND FRANKFURTER BANK

While the story of BHF-BANK dates back to the middle of the last century, its present status results from a merger between Berliner Handels-Gesellschaft and Frankfurter Bank in 1970. As a limited company the bank is owned by approximately 25,000 shareholders and is directed by its personally liable managing partners. It is a merchant and commercial bank and issuing house, is involved in portfolio management and securities business, and has been active in international finance for more than a hundred years. The bank with total assets of more than 21 billion Deutschmarks, thus combines the advantages of a company that has access to the capital market with all the flexibility of a private bank.

Headquartered in Frankfurt, Germany's financial center, BHF-BANK serves a broad and diversified clientele: industrial companies (including nine out of ten top German companies), multinational corporations, government agencies, public entities, international organizations, and financial investors, as well as private customers.

Through its foreign branches in New York, Grand Cayman and Tokyo, its subsidiaries in

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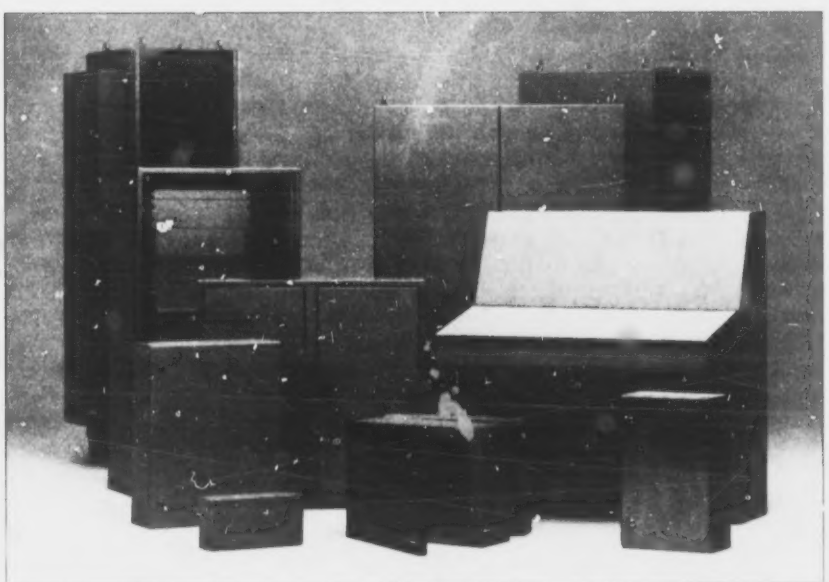

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RITTAL

Luxembourg, Jersey, Zurich and New York, and its representative offices in the major financial centers, BHF-BANK is well positioned to provide its clients with individually packaged financing wherever the need arises.

BHF-BANK International, Luxembourg, and BHF-BANK (Jersey) Ltd. afford direct access to the Euro-market and give the bank the facilities and flexibility to tap the Euro-currency and Euro-capital markets in the European, North American and Far Eastern time zones.

The bank concentrates its creative skills on wholesale banking activities, principally for larger companies. Through the years its proven ability to tailor its facilities to meet the most stringent requirements of its clients and its commitment to efficiency and good service have contributed substantially to the successful development of many companies of all sizes – German and international companies as well as subsidiaries of multinational corporations operating in Germany.

Less than ten years ago BMW was regarded as a well kept secret in the United States. The Bavarian marque was recognized and respected within a knowledgeable but small group of enthusiasts, but generally unknown to the casual motorist.

When BMW AG established BMW of North America as its sales subsidiary for the states in 1975, the initial task for the young company was clear: capture the attention of the larger group of consumers who the company was confident would appreciate the way BMW blended German tradition and technical innovation into an active, comfortable and safe driving experience.

The sales record of BMW in the United States over the past eight years shows that the goal was accomplished in dramatic fashion. Vehicle sales have increased over three fold, from 15,007 in 1974 to 52,393 in 1982. Retail deliveries for this year are projected to surpass 58,000.

During a period of recession, BMW emerged as a leader in the most dynamic part of the American market, the luxury/performance segment. At one time, the terms luxury and performance were mutually exclusive in the American market. Luxury was defined by size and weight, while performance was the province of a handful of European models and the Detroit muscle cars.

BMW of North America's marketing strategy since 1975 has focused on elements which are most important to consumers in this market. "The Ultimate Driving Machine" was selected as the way to summarize BMW's engineering philosophy. All BMW models are positioned as cars that deliver intelligent performance and workmanship in engineering excellence, rather than superficial opulence.

Through a presentation of engineering qualities in all forms of corporate communications, BMW also fostered a position of exclusivity among the more established competitors, a position of coexistence rather than confrontation with other luxury/performance automobiles.

Coexistence rather than confrontation was also important in the company's view because a majority of the authorized BMW dealers in the United States are dual or multi-franchise dealerships. It was vital to establish a clear product distinction so those dealers could successfully sell BMWs off the same floor as a Chevrolet, Mercedes, Toyota or Volkswagen.

At the halfway point in 1983, the BMW dealer organization in the United States totaled 403, 25 percent of which are exclusive BMW dealers.

BMW has systematically expanded the capacity of its dealer organization in the country over the past eight years by placing emphasis on development rather than sheer growth. Average sales per dealer have increased from 60 in 1974 to 132 last year, and a projected 141 for 1983. By committing more cars to each dealership, BMW can work with each dealer on an investment program to create the personnel, work space and inventory capacities necessary to ensure customer service.

During model year 1984, BMW followers can look forward to a six-cylinder 3-Series model to supplement the 318i and a turbo diesel option in the 5-Series.

BMW of North America maintains its headquarters in Montvale, New Jersey, a corporate campus community twenty-five miles northwest of mid-town Manhattan. Dealer services are administered through five regional offices, in Atlanta, Chicago, Dallas, Los Angeles and New Jersey.

In addition to the automobile business, BMW of North America is the importer and distributor for BMW motorcycles and marine engines.

BMW of North America enters the mid-eighties confident of solidifying its position as a leader in the U.S. luxury/performance market and continuing its role as the leading export market for BMW AG.

Gunter Kramer is the chairman and president of BMW of North America. The senior vice presidents are J. Gordon Bingham, responsible for automotive operations, and Horst Bodenbinder, responsible for finance and administration.

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BANKERS TRUST COMPANY was founded in 1903 as a trust company and over the years has developed into the country's ninth largest commercial bank.

In 1978, Bankers Trust adopted a new corporate strategy which emphasized the bank's relationship with corporations, financial institutions, governments and certain individuals worldwide. As part of this strategy to focus on wholesale banking, Bankers Trust Company sold more than 80 of its customer branches but will retain a core group of offices in New York City.

The bank's involvement in international banking began in 1920 when it opened a branch office in Paris, and two years later the London office was opened. Bankers Trust Company now has branches in London, Paris, Madrid, Milan, Birmingham, Jersey, Manila, Manama, Nassau, Panama City, Seoul, Singapore, Hong Kong, Taipei and Tokyo and affiliates and representative offices in more than 30 countries. It also has offices in Los Angeles, San Francisco, Houston, Dallas, Atlanta, Chicago and Miami. Bankers Trust Company is a member of Bankers Trust New York Corporation, whose assets total over $35 billion.

HYPOBANK

BAYERISCHE HYPOTHEKEN-UND WECHSEL-BANK AG was established in 1835 in Munich by royal decree of King Ludwig I of Bavaria. HYPO-BANK is Germany's oldest publicly-quoted bank and one of the largest with consolidated assets of more than DM 92 billion.

HYPO-BANK is engaged in both commercial and mortgage banking, operates the largest branch network in southern Germany, and is also active nationwide in key centers such as Frankfurt, Hamburg, Hannover, Duesseldorf, Stuttgart and Berlin.

Through its wholesale full-service branches in New York, Cayman Islands and London, its wholly-owned subsidiary in Luxembourg, representative offices in Brazil, Hong Kong, Italy, Mexico, South Africa, Spain and the United Arab Emirates, affiliates and its partnership in ABECOR, HYPO-BANK offers services around the globe. Via its affiliation with ABD Securities, New York, the Bank's customers have direct access to the U.S. securities market.

For more information and a copy of our Annual Report, please contact the International Department, A/PL, Theatinerstrasse 11, D-8000 Munich 2, Tel: (089) 2366-1, Telex: 5 2865 25-27.

Bayerische Landesbank

BAYERISCHE LANDESBANK's origin dates back to the late nineteenth century, and the Bank has grown into one of the leading banking institutions in West-Germany. Headquartered in Munich, Bayerische Landesbank operates branch offices in New York, London, Singapore and a subsidiary in Luxembourg, as well as Representative Offices in Vienna, Toronto, and Johannesburg. In addition, a Grand Cayman Branch as well as an International Banking Facility (IBF) – operated out of New York – supply off-shore banking services.

Bayerische Landesbank, a public institution, is 50% owned by the State of Bavaria and 50% by the Bavarian Savings Bank Association. The Association is owned by the savings banks, which in turn are owned by their municipalities. By statute, Bayerische Landesbank's obligations are jointly and severally guaranteed by its owners.

Bayerische Landesbank's total assets now exceed DM 95 billion. The bank has been accorded the highest ratings from both major U.S. agencies (Moody's P-1, AAA; Standard & Poor's A-1+, AAA).

The Bank offers a wide range of financial services on a global basis. In Germany, it is one of the largest issuers of securities as well as a major corporate lender. Its primary strengths include a substantial DM deposit base and long-term, fixed rate DM loan capabilities.

Since establishing its Representative Office in New York in October 1979, and gaining full branch status two years later, in October 1981, Bayerische Landesbank has become a major wholesale lending participant throughout the country.

The New York Branch offers a full range of domestic and international financial services, including loans, foreign exchange and money market expertise, as well as documentary and collection capabilities.

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D-8000 Muenchen 2 West Germany
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BAYERISCHE VEREINSBANK
AKTIENGESELLSCHAFT

BAYERISCHE VEREINSBANK AKTIENGESELLSCHAFT, incorporated in Munich as a commercial bank in 1869 and merged with Bayerische Staatsbank (founded 1780) today ranks fourth among the largest private-sector banks in Germany. Together with its mortgage subsidiaries, Bayerische Vereinsbank is the largest private-sector, long-term banking group in Germany. As of June 30, 1983, the Bank increased its balance sheet total to DM 61.6 billion. Consolidated total assets rose to over DM 108 billion.

As one of the few banks specializing in both the credit and mortgage fields, BV is an especially versatile financing institution. Headquartered in Munich, BV has branches in the German banking capital of Frankfurt as well as in Duesseldorf, Stuttgart and Berlin. Its corporate business is conducted throughout its 399 branches which are located mainly in southern Germany. Bayerische Vereinsbank also holds interests in several well-known private banks in West Germany.

International business is conducted by about 50 domestic branches as well as 19 branches and representative offices in 14 countries around the world. Bayerische Vereinsbank also strengthened its market position in international financing and securities business, both at home and abroad.

North America was again a major focal point of Bayerische Vereinsbank's international activities in 1982. The bank's network in North America is the largest of all German banks, with offices in New York, Chicago, Los Angeles, Atlanta and Cleveland, plus IBF's in New York and Atlanta as well as a Eurobase in the Cayman Islands.

The bank's wholly-owned subsidiary BAYERISCHE VEREINSBANK INTERNATIONAL S.A. Luxembourg, is active in the Euromarket with a business volume of some DM 5.6 billion and a substantially strengthened earnings potential.

With over 400 branches and a staff of more than 11,000 employees, Bayerische Vereinsbank offers comprehensive domestic and international services tailored to the individual needs of its clients. The bank is one of Germany's largest joint-stock credit institutions, and has about 67,000 shareholders. BV shares are traded on all German stock exchanges.

BLG
Bremer Lagerhaus-Gesellschaft
Port Operating Company
Bremen/Bremerhaven

BREMERHAVEN:

Location: The Port of Bremerhaven is located on the North Sea.

The Wilhelm Kaisen Container Terminal at Bremerhaven has 2.5 kilometers of wharfage, 1.6 km of which runs alongside the Weser Estuary. The Stromkaje, or River Quay, has a water depth of 46 feet.

Facilities: 108 all-container shipping companies with 51 all-container services and 64 semi-container services are located at the Port. Bremerhaven's container terminal has 18 52-ton cranes, 13 on the Stromkaje, and five in the Nordhafen (North Dock), and 46 straddle carriers with 30 ton capacities.

The terminal has 1,613,510 square feet of warehouse space and an open storage area measuring 18,901,425 square feet.

Railway and road networks plus feeder services provide connections between the container terminal in Bremerhaven and all parts of Europe.

BREMEN:

Location: Located on the Weser River, the Port of Bremen is Germany's southernmost port. The Neustadt Docks, the newest port area in Bremen, is the home of Bremen's container terminal. Its quays extend over 1.9 km.

Facilities: Bremen's container terminal has 150,000 square meters of shed storage space and 200,000 square meters of open air storage space. The Port also operates four 60-ton gantry cranes, straddle carriers, and forklift trucks. Bremen's container freight station has a 40,000 square meter packing center and 80,000 square meters of rack storage space. Another container freight station is on the banks of the Weser. The Weser Railway Station track network connects it with all other parts of the Port.

The container handling terminals in Bremen and Bremerhaven are directly linked up by means of a complex SEL data processing network, with the central computer (IBM 4341) in the multistorey port building in Bremen.

Tonnage/Port Developments: The total volume of cargo handled by the Ports of Bremen in 1982 increased by 1.8 percent to more than 26 million tons. The Port of Bremerhaven handled a total of 12,003,500 tons and Bremen handled 14,235,400 tons.

On August 19, 1983, the Port of Bremerhaven inaugurated the new facilities at the container terminal. Four gantry cranes were added; three on the Stromkaje and one in the Nordhafen. Bremerhaven's banana handling facilities are also due to be completed soon.

CHASE

CHASE MANHATTAN serves the financial needs of its corporate and institutional customers in over 130 countries around the world. At a time when the economies of the world are more interdependent than ever, Chase Manhattan is eager and able to pursue global opportunities.

Chase serves its worldwide corporate customers through its Global Specialized Industries, Global Industries and U.S. National Industries Groups. Within Germany, Chase Manhattan has corporate bankers whose industry expertise include capital goods, electronics, automotive, mining and metals, energy, shipping and aerospace. Also, there are specialists in trade finance and international cash management.

Each group is staffed with relationship managers who concentrate on a single industry and who coordinate and provide credit, transactional services, trade finance, merchant banking, and virtually any other banking service to corporate customers. These relationship managers are supported by industry experts including economists, geologists and engineers. With the assistance of these experts, relationship managers bring the worldwide resources

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of the bank to meet the needs of their customers.

Chase also serves, through its International Institutional Area, leading German banks. Chase facilitates the transfer of funds and letters of credit and participates in loan syndications. In addition, Chase AG acts as a local correspondent bank in the D-mark field for other foreign banks located in Germany.

Chase will continue to serve the needs of its corporate and institutional customers in Germany and around the world with top quality products and a high calibre of service. And, in order to enhance its reputation for excellence, Chase will develop new products and services, improve existing ones and explore the latest technological advances to facilitate the delivery of these to its customers through Chase's vast international network.

CfG
ProMinent

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It was way back in 1964 when Victor Dulger founded the firm of "CHEMIE UND FILTER GmbH." at Heidelberg with the express aim of supplying high quality products of the latest technical standards for the automization of liquid dosing processes. Meanwhile the manufacturing program has outgrown plants and units for domestic and industrial water conditioning, waste water treatment, degermination techniques and swimming pool water conditioning into the world's most comprehensive program of electronically controlled market diaphragm dosing pumps made known on the markets of the world as "ProMinent" technique through 11 subsidiaries and agencies in more than 60 countries.

220 experts are employed in the ultra-modern works at Heidelberg and approximately 4% of the returns are devoted to research and developments with the result that during recent years the CFG program has been constantly increased for new markets and applications. Nowadays, Chemie und Filter GmbH has become a world renowned concern for its specialities, for its incontestably high quality products, for its all-round "know-how" in its activities, and last not least for its service facilities covering the world markets.

The main line of production – ProMinent Dosing Pumps – distinguish themselves through mature technical standards and absolute precision performance. They are highly acclaimed wherever liquids have to be dose-applied with reliable perfection. They are backed by a wide range of accessories such as special control facilities for the solution of most varied processing requirements in the industry, for water conditioning, in laboratories, etc.

To cope with the special needs of the USA markets a subsidiary – ProMinent Fluid Controls – was founded at Pittsburgh years ago. Nowadays complete series are assembled there to answer the intricate problems of the market. A nation-wide distributing system and local sales offices guarantee a max- after-sales service.

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Tel. 06221/842-0

ProMinent Fluid Controls Inc.
Parkway West Industrial Park
503 Parkway View Drive
Pittsburgh, PA 15205
Tel. (412) 787-2484

COMMERZBANK

COMMERZBANK was founded in 1870 by Hamburg merchants and bankers and, through a series of acquisitions and mergers, soon became a leading force in German banking. Today it ranks third in size among German commercial banks and is engaged in all forms of commercial banking, as well as in underwriting, syndicate and investment banking. The emphasis in commercial banking is on short- and medium-term loans, but comprises long-term lending, too. Retail banking has also experienced rapid growth over the last 15 years.

The Commerzbank group maintains a domestic branch network of some 862 offices located throughout West Germany and West Berlin, with a staff of well over 21,000. It comprises 20 domestic banking and financial associates, the most important of which are Berliner Commerzbank and Rheinische Hypothekenbank, a leading German mortgage bank.

Foreign activities have a significant part in the overall business of the bank, whose international departments are all located in Frankfurt. Major holdings abroad include 100% interests both in Commerzbank (South East Asia Ltd.), Singapore, and in Commerzbank International S.A., Luxembourg, a 70% stake in Europartners Bank (Nederland) N.V. in Amsterdam and Rotterdam, and a 40% interest in the New York investment bank EuroPartners Securities Corporation, as well as holdings in more than 30 other financial institutions in about 20 countries. In addition, Commerzbank operates eleven foreign branches – in Antwerp, Atlanta (agency), Barcelona, Brussels, Chicago, Hong Kong, London, Madrid, New York, Paris, and Tokyo, and 19 representative offices abroad. In all, the Bank today offers world-wide facilities in 35 countries at 70 different locations.

From the very beginning, Commerzbank has maintained especially close relations with the Americas. In 1971, Commerzbank transformed its New York representative office, which was opened in 1967, into a branch – thus becoming the first German bank to operate a full-service branch in the U.S. In 1974, the Bank's U.S. operations were expanded with the establishment of a second branch in Chicago, and in 1979 its presence was further extended through the opening of an agency in Atlanta, Ga.

The Bank's capital and reserves as of

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December 31, 1982 totaled DM 2.528 billion. Its balance sheet total amounted to more than DM 66 billion while its consolidated total assets exceeded DM 108 billion.

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To help you become part of your new environment quickly, Coopers & Lybrand can provide you with introductions to banks, attorneys and members of the local business community.

Because of Coopers & Lybrand's expertise in 25 different industry groups, we can also advise you on the economics and problems facing specific industries in the U.S. We will keep you abreast of changing rules and regulations from Washington and guide you through the complex maze of actuarial, benefits and compensation regulations.

Through its member firm, Treuhand-Vereinigung AG and its subsidiary, Karoli-Wirtschaftspruefung GmbH, Coopers & Lybrand maintains offices in Berlin, Cologne, Essen, Frankfurt, Hamburg, Karlsruhe, Munich, Pirmasens, Stuttgart and Kassel.

For further information, contact our U.S. partners in charge of this special program for German services:

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Telex: 126496

DG BANK

DG BANK with headquarters in Frankfurt am Main, an internationally operating wholesale bank established by special legislation, provides comprehensive commercial and investment banking services and acts as central liquidity manager for the cooperative banking system in the Federal Republic of Germany.

This system comprises more than 3,800 local banks, eight regional banks, and numerous specialized financial institutions owned directly or indirectly by more than 9.5 million individuals and businesses. At year end, 1982, the consolidated assets of this system were DM 414 billion (equivalent of U.S. $174 billion), up 2.6 percent from year end, 1981.

During the period under review, the consolidated assets of the DG BANK Group increased by 7.2 percent to DM 69.6 billion (U.S. $29.3 billion) while the Group's loan portfolio grew by 10 percent to DM 53.9 billion (U.S. $22.7 billion). The Bank's American branches in New York City and Los Angeles, where International Banking Facilities are operated as well, continued to expand their credit business and were also successful in attracting a significant volume of non-bank deposits. International loans and money market deposits at year end, 1982, amounted to 18.3 percent of the Bank's consolidated business volume of DM 74.4 billion (U.S. $31 billion). After substantial provisions for risks in domestic and international lending, consolidated net income for 1982 reached DM 100.3 million (previous year U.S. $52.5 million) of which DM 70 million was allocated to reserves. The Bank's 5 percent dividend, which – due to its legal status – is tax free

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for its shareholders, amounts to a pre-tax return on investment of 13.9 percent. As of July 1, 1983, the Bank's capital was increased by DM 200 million, bringing shareholders' equity up to DM 1.34 billion.

Deutsche Bank
A century of universal banking

The DEUTSCHE BANK AG, headquartered in Frankfurt/West Germany, is the largest bank in the Federal Republic of Germany on the basis of assets, deposits, loans or capital. The Bank together with its consolidated subsidiaries is one of the world's leading banking enterprises with total assets as per December 31, 1982 of DM 199.2 billion, deposits of DM 128.4 billion and stockholders' equity of DM 6.5 billion.

The Bank is engaged in a full range of commercial banking activities such as providing credit of all types and maturities and accepting deposits. In addition, the Bank is, in Germany, active in underwriting, distributing and trading securities and holds equity investments in some of the leading industrial corporations in Germany. The Bank's consolidated subsidiaries are engaged in mortgage lending, investment management, property management, leasing and construction financing. Through Deutsche Bank Compagnie Financière Luxembourg, the Bank is one of the leading institutions involved in Euro-market lending and loan syndication.

Due to the Bank's size, the broad range of its activities and its close ties with some of Germany's leading corporations, it is an integral part of the German banking system.

The New York branch of Deutsche Bank was established in 1978. The branch is involved in commercial wholesale banking with an emphasis on short and medium term lending, trade finance, documentary international business, foreign exchange and money market dealings. Offshore activities are channeled through the International Banking Facility (IBF) and Cayman Islands Branch. Representative Offices are maintained in Chicago and Los Angeles.

In 1982 the Bank established the wholly-owned subsidiary Deutsche Credit Corporation which emphasizes on financing and leasing capital goods. Deutsche Bank is also engaged in U.S. investment banking through its wholly-owned subsidiary Atlantic Capital Corporation (see ACC).

By late 1982, Deutsche Bank had 13 branches and 8 wholly-owned affiliates abroad. There are presently 93 branches, affiliates, and representative offices in 54 countries. At year end 1982, the Bank employed 40,325 and the Group a staff of 45,618 at 1,378 branches, respectively.

DIDIER

DIDIER TAYLOR REFRACTORIES CORPORATION became a German-American enterprise in 1978 when Didier-Werke AG acquired the Taylor Refractories Division of NL Industries. Charles Taylor and Company was founded in Cincinnati, Ohio, in 1864. It evolved over the years into Charles Taylor and Sons and eventually was merged into NL Industries becoming a division of that company. During these years the Taylor Company changed from a manufacturer of fireclay brick into a manufacturer of special high-temperature refractories using sophisticated raw materials from all over the world. With plants in Cincinnati, Ohio, and South Shore, Kentucky, as well as Evergem, Belgium, the company had become a major international supplier of refractories for special applications in glass, foundry, steel, and other industries.

Didier-Werke AG (founded in 1834) is the largest refractories company in Europe with manufacturing plants in West Germany, France, Spain, and a plant at Becancour, Canada, commissioned in 1978. The formation of Didier Taylor Refractories Corporation offered Didier-Werke AG additional access to speciality products sold widely in Europe primarily to the glass industry as well as an entree into the steel and other major markets in America.

Both Taylor and Didier have a history of innovative product development. Taylor introduced bonded refractory pavers for the glass industry and also chromic oxide-alumina materials for the metallurgical and industrial furnace markets. Didier developed the first refractories for slide gates to control the flow of steel from ladles. Most recently, special refractories for the revolving gate system followed for both steel ladles and tundishes and for a revolutionary slide gate application on an electric arc furnace tap hole. Didier was also the first to produce porous plugs for bubbling gas through the bottom of a steel ladle and is manufacturing the full range of high-grade refractories for use in continuous casting, which is applied more and more by the American steel industry.

Many of these new and exciting products have already been incorporated into Didier Taylor's manufacturing program. In the near future, additional production facilities will be built. In the meantime, Didier Taylor will continue to warehouse and distribute products made in Didier's European plants in order to fully serve the needs of the iron and steel and cement industries in North America.

At the same time, Didier Taylor continues to maintain its worldwide position in its primary market industries of glass, nonferrous, metallurgical, mineral, and chemical processing through an optimal combination of new products, quality, distribution, and technical service to its customers. Organizationally the Canadian and United States plants and offices function as one unit with headquarters in Cincinnati, Ohio.

DRESDNER BANK AG was founded in Dresden in 1872 and is now headquartered in Frankfurt, Federal Republic of Germany. With total assets of almost DM 84 billion, Dresdner Bank ranks among the largest banks in the world. The aggregate business volume of the Dresdner Bank Group totals DM 180 billion.

As a "universial bank", the Dresdner Bank offers the full range of commercial investment banking services. Internationally, the bank specializes among other things in investment advice and in the management of mutual funds and of pension funds. It also holds a leading position in placing bond issues floated by foreign issuers, and in introducing the shares of foreign corporations to German stock exchanges. Dresdner Bank also plays a significant role in the foreign exchange and money business as well as in gold coin and in bullion trading.

Approximately one-fifth of the bank's share capital of nearly DM 1 billion is owned by foreign investors. Capital and disclosed reserves total about DM 3.4 billion.

Dresdner Bank holds an essential share in the financing of Germany's foreign trade. Decades of experience, a network of branches and representative offices abroad, and cooperation with over 5,000 correspondent banks all over the world enable the bank to back the industry in their international business.

A large share of Dresdner Bank's international banking is handled through a worldwide network of branches. In the United States Dresdner Bank is strongly represented by branches in New York, Chicago, Los Angeles as well as Representative Offices in Houston and Miami. Furthermore, the recent establishment of a subsidiary in Toronto underlines the Bank's commitment to North America. Dresdner Bank has also realized a good position in the United States brokerage and investment banking business through its 75% participation in ABD Securities Corporation, New York.

A further demonstration of Dresdner Bank's international presence around the globe is reflected by branches in London, Madrid, Barcelona, Milan, Hong Kong, Singapore and Tokyo, complemented by a subsidiary in Luxembourg and 29 Representative Offices in major trading and financial centers.

DIEHL

The family-owned DIEHL GmbH which has been hailed by the press as Germany's most unknown large enterprise, is a metal-processing company with headquarters in Nuremberg. The enterprise which had its origin in an art foundry, founded by Heinrich Diehl in 1902, is the nucleus of a group of firms which manufactures a wide range of products.

Semi-finished metal products made of copper base alloys, were the nucleus of the enterprise and up to this day have remained a mainstay of the company. Over the years, the range of products has been extended and comprises now products which are the result of many years of research, such as unprocessed wire, wear-resisting synchronizing disks and bands out of which system carriers for large-scale integrated circuits are made.

Beside the manufacture of semi-finished products, the company has been more and more involved in operational fields that are linked with brass.

Defense equipment, produced for the Armed Forces, give evidence of the high standard of the Diehl technology. Ammunition, weapons, tracks and electronic components, made by DIEHL and MAUSER, guarantee defense. In 1957, the company became a partner of Europe's largest watch manufacturer, the Gebrueder Junghans GmbH. Thus, the know-how of the Diehl GmbH in the field of fuses merged with the centenarian experience in watch making of Junghans.

Watch making. The range of watches comprises quartz-controlled large clocks and wrist watches as well as chronometers for sports. With the first mass-produced quartz clocks in Germany, JUNGHANS has become a pioneer in the field of quartz technology.

Many years of experience in the field of chronometer technology for the control of household appliances have been integrated into the *DIEHL switching systems*. For household appliances from washing machines to lighting fixtures they optimize time and the range of temperature when cooking or frying, control heating installations and switch on or off at a given time.

Processing and measuring machinery and machine tools produced by MAUSER, a subsidiary of the DIEHL company, are able to indicate already during the production process any deviations exceeding dimensional tolerances, down to a thousandths of a millimeter exactly.

In the field of *computer design*, CTM, another DIEHL subsidiary, has just developed a new interactive processing system, Type CTM 9032, on the basis of a bit rate of 32 and has thus overcome customary processing systems.

With the above-mentioned products, sold throughout the world, DIEHL has gained an international reputation. A staff of 13,000 works in the numerous domestic and foreign plants of the DIEHL group. In 1982, the turn-over amounted to 1,800 million German marks.

Head Office:
DIEHL GmbH & Co.
D-8500 Nuernberg 30
Stephanstrasse 49
Telephone: (0911) 475-1
Telex: 6-22 591

Related Companies in the USA:
Franconia Ind. Inc.
540 Madison Avenue
New York, N.Y. 10022

Borg Instruments Inc.
902 Wisconsin Street
Delavan, Wisconsin 53115

Chronos Clock Corporation
902 Wisconsin Street
Delavan, Wisconsin 53115

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EM INDUSTRIES, INC.

EM INDUSTRIES, INCORPORATED, a subsidiary of Merck AG of Zug, Switzerland, and the US associate of E. Merck, Darmstadt, Germany, is a diversified manufacturer of specialty chemicals for many different applications. The Merck group resumed its activities in the US in 1971 with the creation of EM Laboratories, Inc., which was later renamed EM Industries, Incorporated. EM Industries' business will reach a volume of $90 million in 1983 and is channeled through four operating divisions.

The EM Chemicals Division supplies a wide range of high quality specialty products to the pharmaceutical, food, electronics, optics and plastics and coating industries. During 1978 and 1979, the first phase of a new chemical complex was constructed in Savannah, Georgia, where pearlescent pigments for cosmetic and industrial applications are manufactured. In a later addition vacuum deposition materials for the optical and electronic industries are produced.

The Rona Pearl Division, which was acquired in 1975, is a major supplier of specialty chemicals to the cosmetics industries. Rona Pearl has pioneered in the development of the first synthetic nacreous pigments approved for cosmetic use. These pearlescent pigments add an iridescent glow to powders, eye shadows, blushers, lipsticks, liquid makeups, nail enamels, cream, shampoos and soaps.

The EM Science Division was formed in 1980 by merging the then acquired Harleco group with MCB Manufacturing Chemists, which was acquired in 1977. MCB is one of the oldest, most respected names in the field of laboratory chemicals. MCB had been able to extend its product offerings with the addition of fine laboratory products from E. Merck, Darmstadt, the largest worldwide supplier of high purity chemicals. MCB manufactures and sells close to 4,000 products for analytical and research purposes in industrial, educational and governmental laboratories. EM Science has been for several years a well-established company in the clinical chemistry, hematology, cytology and histology markets. E. Merck, Darmstadt, concentrates a substantial part of its active research in clinical chemistry. This research coupled with a recently signed cooperation agreement with Eppendorf, a German manufacturer of clinical chemistry instruments, will allow EM Science to broaden its product line in the area of clinical chemistry. EM Science at present manufactures and sells over 550 products for the diagnostic marketplace. Major users are hospitals and private clinical laboratories as well as government health services.

Center Laboratories, which joined the EM group early in 1979, offers a line of quality controlled, highly effective extracts to the allergist. These biological products include extracts of pollens, molds, dusts, inhalants, epidermals, insects and food which are used to bring relief to allergy sensitive patients.

In addition to these commercial activities, EM Industries conducts clinical research for the Pharmaceutical Department of E. Merck, Darmstadt, and is testing new plant protection products developed by Celamerck of Ingelheim, Germany.

EIMELDINGEN CORPORATION, a wholly-owned subsidiary of Maschinenfabrik Eimeldingen in Eimeldingen, West Germany, was founded in 1979 in Indianapolis, Indiana. Eimeldingen is one of the world's largest manufacturers of ultra-precise rotary machine tool tables...dividing, graduating and coordinate tables...required for extremely accurate machining, measurement and inspection.

Eimeldingen's international reputation for extreme precision is acknowledged and utilized by industries manufacturing aerospace equipment, aircraft, helicopters, automobiles, generators and turbines.

This prestigious international company was founded in 1932 in Stuttgart as a designer and manufacturer of automatic transfer machines. In 1945, a new production facility built in Eimeldingen, West Germany, started manufacturing vises; various tilting and rotary movement workholding pieces – necessary for a retooling industrial nation – resulted from these original vises.

In the 50's when industry required precision measuring and inspection tables, Eimeldingen designed and manufactured rotary and rotary tilting tables to meet these requirements. In the early 1970's, Eimeldingen's rotary machine tool table was interfaced with other industrial operations, including numerical control capabilities. This served to open the OEM market for Eimeldingen precision rotary tables, which were being widely used for production purposes; since 1975, nearly 80% of all Eimeldingen products have been used in a production function, with sales to all Western countries.

Eimeldingen Ltd. was opened in 1977 as a sales and service facility to accommodate Great Britain and the British Isles. Eimeldingen/Indianapolis was established in 1979 to provide the international firm with yet another manufacturing facility. Eimeldingen provides exceptionally qualified design and electronics personnel to build custom orders to the most exacting specifications. S I P machining centers – recognized worldwide as the leader in precision machining centers – in combination with technically qualified personnel make it possible for Eimeldingen/Indianapolis to provide the United States market with the same precision industrial manufacturing equipment as that built in Europe.

EuroPartners Securities Corporation

EUROPARTNERS SECURITIES CORPORATION is the United States' full service investment banking and securities affiliate of Commerzbank (Germany), Crédit Lyonnais (France), Bank Leu (Switzerland) and Banco di Roma (Italy).

The firm was incorporated in New York in 1968 by Crédit Lyonnais, under the name of Crédit Lyonnais Corporation. The name Europartners Securities Corporation was adopted in 1970 when Banco di Roma and Commerzbank became shareholders. Bank Leu became a shareholder in 1975.

With emphasis on serving clients in the United States' financial markets, EuroPartners Securities Corporation performs a full range of international investment banking and securities brokerage functions, which represent a portion of the total banking business conducted by its parent banks as "universal" European banking institutions.

In 1968 EuroPartners Securities Corporation was one of the first investment banking and securities affiliates established in the U.S. by major foreign banks. In February 1979 EuroPartners became the first European-owned U.S. securities firm to become a member firm of the New York Stock Exchange. Today, EuroPartners Securities Corporation is one of the leading foreign-owned securities firms in the U.S. with capital in excess of $10 million, offering a full range of corporate finance, investment management, research and securities brokerage services to an ever broadening group of corporate, institutional and individual clients in the U.S. and abroad.

Investment banking and corporate financial services provided by EuroPartners to European and American client companies include: underwritten public offerings of securities, private placement financing, tax-exempt industrial revenue and pollution control bond financing, mortgage financing for corporate real estate, leverage lease financing, tender offers, merger and acquisition expertise, venture capital financing, financial evaluations, and assistance with debt ratings and U.S. and foreign stock exchange listings.

A fundamental premise underlying the development of EuroPartners' corporate finance

services has been an uncompromising commitment to giving client companies the best possible advice and counsel concerning financing or investment banking matters in the domestic U.S. market and international capital markets and to executing financing or other assignments effectively and professionally. U.S. companies look to EuroPartners for responsive and professional corporate finance services. European companies operating in or entering the U.S. market benefit from EuroPartners' extensive experience with the financial, accounting, legal and business problems that its overseas client companies encounter repeatedly in acquiring, developing and financing U.S. operations.

EAB
European American Bank

EUROPEAN AMERICAN BANCORP., headquartered in New York City, is the holding company for European American Bank & Trust Company, European American Banking Corporation, Euramlease, Inc., Dorman & Wilson, Inc., and EAB Venture Corp. Its assets exceed $8.4 billion.

European American Bank & Trust Company is an American bank chartered in New York State. It serves a worldwide market and offers a highly diversified range of products and services to customers, small businesses, middle market companies (firms with annual sales of between $5 and $100 million), U.S. multinational and European corporations, banks and governments. Through its European Desks, special attention is given to the subsidiaries of European companies doing business in the U.S.

The bank is a full service commercial bank with over 90 branches in the New York/Long Island area, a representative office in Hong Kong, an Edge Act office in Los Angeles, and a branch and subsidiary in Nassau, Bahamas. It is a member of the Federal Reserve System, the Federal Deposit Insurance Corporation and the New York Clearing House Association.

European American Banking Corporation is a New York investment company with commercial banking powers, specializing in international finance and foreign exchange. In addition to its headquarters in New York City, the Barking Corporation has locations in Los Angeles, Nassau (Bahamas), and a subsidiary in Bermuda.

Euramlease, Inc. provides leasing arrangements to companies in the U.S. and abroad.

EAB Venture Corp. provides growth capital for qualified small businesses with potential for expansion.

Dorman & Wilson is a major mortgage banking firm that provides EAB with expanded capabilities in financing real estate development and enables the bank to offer comprehensive mortgage and appraisal services.

European American Bancorp is owned by six of Europe's largest banks. This unique association provides access to a network of over 10,000 banks around the world. EAB's shareholder banks are: Amsterdam-Rotterdam Bank N.V., Netherlands; Creditanstalt-Bankverein, Austria; Deutsche Bank AG, Germany, Midland Bank plc, United Kingdom; Société Generale de Banque S.A., Belgium; Société Generale, France.

FAG

FAG BEARINGS CORPORATION is an international organization whose trademark is a worldwide symbol of quality and dependability in the design and manufacture of bearings in all sizes and configurations. FAG is recognized as the signature of one of the world's oldest and largest manufacturers of precision ball and roller bearings. Since 1883 FAG has led the way in the development and refinement of bearing design and technology. Today, FAG employs over 31,000 people in branches and affiliate

WORLDWIDE TRANSPORTATION

LYKES

Worldwide Headquarters
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plants in the U.S.A., Canada, Brazil, Germany, Austria, Switzerland and Portugal. There are, in addition, FAG sales and service offices and distributors in more than 100 countries.

FAG headquarters in the U.S.A. are located in Stamford, Connecticut, where a full complement of administrative, marketing, engineering and distribution personnel service the American market. The chief U.S. production facility is in Joplin, Missouri. Now undergoing extensive expansion, the Joplin plant will be producing by 1982 an extended range of bearing types in sizes hitherto never produced in the U.S. FAG's capabilities in bearing design and manufacturing are second to none. From automobiles to steel furnaces, farm machinery to spacecraft, FAG is ready to provide bearings, housings, accessories and components, whatever and wherever the need.

FESTO PNEUMATIC

FESTO is the world's leading innovator and producer of pneumatic products for automation. Founded in 1924 to manufacture woodworking machinery, the company began development in pneumatics as a means to improve its woodworking product line. By 1958, pneumatics at Festo became a separate division. Today, Festo is represented in 48 countries, employing more than 4,000 people throughout the world and manufacturing under 30 flags.

World headquarters, research and development, and the main manufacturing plants which supply both the domestic German and the international markets are located in Esslingen, West Germany.

Festo was established in the U.S. in 1972, with headquarters in Port Washington, New York. Expanded business necessitated a move in 1981 to larger facilities in Hauppauge, Long Island, under Horst Saalbach, President. Production of pneumatic cylinders commenced here in June 1983.

The main Festo business groups are Pneumatic, Didactic, and Electronic:

- Festo Pneumatic offers a comprehensive line of over 3,000 components, featuring cylinders, valves, fittings, tubing, index tables, strip feed units, etc.
- Festo Didactic offers a series of comprehensive educational programs for technical trades and engineering technologies. Training is done through seminars in pneumatics and hydraulics. Hardware and software packages, including trainers, textbooks and instructor support materials are also available.
- Festo Electronic provides the development and application of programmable controller technology geared to production automation.

It is our objective to provide innovative products which offer simplicity of application, quality, and long life, even under adverse conditions. Our products are backed by a team of engineers, expert in pneumatics, and by a computer-linked service network.

Whatever the industry, Festo offers a low-cost solution to automation needs: packaging, electronics, textiles, robotics, pharmaceuticals, chemicals, machine tools, automotive, woodworking, and food processing.

First Boston

THE FIRST BOSTON CORPORATION, headquartered in New York City, is a full-service international investment bank uniquely positioned at the crossroads of global capital flows. As financial intermediary, we are in constant contact with both the suppliers and users of capital worldwide; moreover, we are consistently creative in our approach to meeting their financial and strategic objectives. Our market making and trading activities cover the complete range of securities of corporations, financial institutions and governments and their agencies, 24 hours a day. We offer not only intelligent advice and innovative ideas for raising capital and solving complex financial problems worldwide, but we also provide unparalleled resources and facilities for executing transactions.

First Boston established a unique affiliation in 1978 with Credit Suisse First Boston ("CSFB"), a leading London-based merchant bank. Together, First Boston and CSFB offer comprehensive international investment banking and securities trading services.

First Boston and CSFB are consistent leaders in raising capital worldwide.

First Boston is preeminent in merger, acquisition, takeover defense and divestiture activity. In the past six years, we have assisted clients in transactions exceeding $69 billion in value, including more than 60 international transactions. This total includes both large and small transactions and discreet advisory assignments.

First Boston and CSFB have traded as much as $2 trillion in securities in a year, making us a leading trading force in the world capital markets.

First Boston's Project Finance Group – the first of its kind on Wall Street – has worked on more than 200 domestic and foreign project assignments. Over the past five years, the Group has raised more than $16 billion for projects in all relevant world capital markets.

In total, we leverage our international expertise and presence to the benefit of each client, whether domestic or foreign, by capitalizing on opportunities whenever and wherever they occur.

FLORIDA

AMERICA'S #1 BUSINESS CLIMATE

Die kaufkraeftigen Maerkte Westeuropas, Kanadas, Asiens und Lateinamerikas entdecken in zunehmendem Masse die Vorteile des Staates Florida fuer Handel und Industrie, was dazu fuehrt, dass der internationale Handel und Investitionen bestens gedeihen.

Floridas strategisch guenstige Lage auf halbem Wege zwischen den Staaten des amerikanischen Kontinents, die natuerlich vorhandenen und noch zusaetzlich geschaffenen Vorteile des Staates fuer den Handel und die Tatsache, dass Florida als suedlichster Bundesstaat als Standort fuer auslaendische Investitionen ganz einfach attraktiv ist – alle diese Kriterien geben Florida einen der ersten Plaetze am internationalen Markt.

Natuerlich werden die Geschaeftsinteressen auch durch das gut ausgebaute Netz an Seehaefen, durch die direkten Luft and Transporteinrichtungen, die internationalen Banken und die Aussenhandelszonen angelockt, sowie auch durch die multinationalen Bueros. Dienstleistungen, eine guenstige Steuerstruktur und eine Vielzahl von Arbeitskraeften mit guten Sprachkenntnissen.

Der Staat heisst Handel und Industrie aufs Herzlichste willkommen und hat sich stets bemueht, jedes Land wissen zu lassen, dass Florida am Geschaeft interessiert ist. Floridas Handelsministerium unterhaelt nun Bueros fuer Wirtschaftsentwicklung in Stuttgart sowie ein Buero fuer Lateinamerika in Sued-Florida, um den Kontakt mit moeglichen Handelspartnern und Investoren zu erleichtern. Das Buero fuer Lateinamerika befindet sich deshalb in Florida, weil der Staat die Erfahrung gemacht hat – wie ueber 100 multinationale Unternehmen auch – dass diese Maerkte von dort aus besser angegangen werden koennen.

Von Zeit zu Zeit veranstaltet Florida auch Besprechungen zwischen Vertretern des Staates und des Handelsministeriums einerseits und auslaendischen Firmen andererseits, um deren spezifische Beduerfnisse zu eroertern.

Den auslaendischen und amerikanischen Unternehmen stehen eine Reihe von Dienstleistungen zur Verfuegung, wie z.B. Studien ueber Marktbedingungen, Computer- und technische Hilfeleistung, kostenlose Plazierung

von "Match up" Annoncen in einer internationalen Publikation, Forschungsarbeit fuer interessierte Firmen, Veranstaltung von Handelsmessen und Hilfe bei der Auffindung des richtigen Standorts.

Florida verfuegt ueber ausgezeichnete Luft- und Wassertransporteinrichtungen, darunter 14 Seehaefen und 13 Flachwasserhaefen. Unter den Vorteilen, die die sechs internationalen Flughaefen des Staates bieten, sind Non-Stop-Fluege nach Europa, Suedamerika und den wichtigsten U.S.-Staedten. Gut ausgebaute Strassen runden das Transportnetz ab.

1982 verzeichnete Florida 17 Milliarden Dollar im internationalen Handel. Der Staat besitzt sechs Aussenhandelszonen. Ab September 1982 gibt es 44 "Edge Act" Bankgesellschaften. Es sind auch 45 auslaendische Banken taetig, fuenf weitere genehmigt, aber noch nicht eroeffnet; sechs Bewerbungen werden noch in Betracht gezogen.

Eine angemessene und gerechte Steuerstruktur macht den Aufbau von Unternehmen sehr attraktiv. Bei jaehrlich 39 Millionen Besuchern, die 1982 mehr als 21.5 Milliarden Dollar ausgaben, kann Florida es sich leisten, die Unternehmenssteuern niedrig zu halten. Florida ist einer der sechs Bundesstaaten in den USA, in denen es keine staatliche Einkommenssteuer gibt – in dieser Beziehung der einzige Staat im Suedosten der USA. Auf Lebensmittel, Arznei oder Haushaltsgueter wird keine Umsatzsteuer erhoben. Ebensowenig wie auf Maschinen oder Ausruestungen fuer neue Produktionszentren. Bei Benzin, Oel, Holz oder Kohle, die fuer Industrieproduktion benoetigt werden, besteht ebenfalls keine Umsatzsteuer.

Floridas vielfaeltige Vorteile, einschliesslich des echten Interesses des Staates an der wirtschaftlichen Entwicklung, bieten dem internationalen Handel und Investitionen ganz erhebliche Moeglichkeiten.

Messe Frankfurt

FRANKFURT FAIRS AND EXHIBITIONS, with a worldwide impact on commerce and trade, evolved from an 800-year tradition of international trade markets. By following or even anticipating the largest trends of their times, they constantly remained modern in the best sense of the word. The present evidence is a DM 400 million construction program. On the 50.5 acres of fair grounds, this provides facilities designed for the trade show expectations of the 1990's. The best conditions will be available for trade events of all kinds and sizes, for flexible adjustments to the requirements of all industries. Most of all, the dominating criteria of today's schedule of events will be emphasized: internationality.

Besides the Frankfurt International Fair, world-renowned "opinion leader" for high quality consumer goods, Frankfurt hosts another biennial event, the *Interstoff*. In May and November fashion designers and manufacturers acquaint themselves with the latest in clothing textiles. The annual *Heimtextil* fair draws more than 55,000 visitors, and features carpeting, curtains and other types of household textiles. The annual *International Fur Fair*, one of the leading trade events in the field, offers products from the fur finishing and processing industry as well as the season's latest designs.

The *Frankfurt Book Fair*, with more than 5000 participating publishing houses from over 90 countries, is the largest market for books, copyrights and translation rights.

In alternate two-year intervals, two exhibitions for the trade are staged in Frankfurt: the IAA *International Automobile Exhibition*, which attracts more than one million visitors; and the *automechanica*, which features equipment for automotive workshops and service stations as well as spare parts and accessories.

Other important fairs include: the ISH International Fair for household sanitary heating and air conditioning technology; ACHEMA – chemical equipment and apparatus; IFFA, an international fair for meat processing equip-

Since Voith the locksmith started turning out gears, Voith transmissions have been turning and moving many things around the world.

Wherever vehicles are on the move and machines at work there are tasks and problems for power transmission engineering. This is one of our largest fields of activity – and has been for more than a century! The photo shows one of the largest hydrodynamic torque converters. More than 40 MW are transmitted through it. It is one of the numerous pioneering achievements of Voith in the field of power transmission engineering.

The diagram on the left has particular historic significance. It shows the first transformer, at that time as converter of characteristics between a steam turbine and a ship's propeller. Today, highly developed torque converter transmissions based on this principle are at work in locomotives and automobiles, as well as in mobile handling plant, construction machines, and stationary plant in the chemical, power, machine-building industries. Voith is always in the forefront where progress needs to be served – with research, designing and production facilities.
And with a wealth of know-how!

This advertisement gives information on our fields of activity of the Voith Group. More than 13.000 employees on three continents develop and produce at Voith machines and complete plant for paper making, water turbines, pumps, machine tools, marine drives, mechanical and hydrodynamic couplings, universal joint shafts, transmissions and brakes, hydrostatic pumps, vehicle cooling units, fans and tunnel ventilation equipment.

Voith Transmissions, Inc.
7 Pearl Court
Allendale

07401 New Jersey/USA
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Telex 7109882136

VOITH

ment as well as spare parts and accessories, with a 44 percent participation of non-German exhibitors.

Whatever the direction of the economy graph, the Frankfurt Fairs continue to distinguish themselves for the results they achieve for buyer and seller alike. The ever growing participation from all parts of the globe is the best proof of this claim to quality and performance.

FREIGHTLINER
FREIGHTLINER CORPORATION

FREIGHTLINER CORPORATION, headquartered in Portland, Oregon, is a wholly-owned subsidiary of Daimler-Benz, AG, in Stuttgart, West Germany. The company manufactures and markets Mercedes-Benz class 6 and 7 trucks, as well as Freightliner class 8 trucks.

Daimler-Benz purchased Freightliner Corporation in July of 1981. One year later, the Mercedes-Benz Truck Company was integrated into the Freightliner organization.

Freightliner Corporation is operating under the direction of Peter E. Rupp, President and Chief Executive Officer. Rupp took over the controls of Freightliner in November of 1982, having left as President of Euclid, Inc., Cleveland, Ohio, another Daimler-Benz subsidiary.

Each in its own way, Mercedes-Benz and Freightliner have defined the leading edge of automotive engineering. Perhaps no two builders have done more to synthesize form and function, human and mechanical engineering.

Mercedes-Benz trucks are assembled in Hampton, Virginia, from U.S. and Mercedes-Benz supplied components. Freightliner trucks are manufactured at Mt. Holly, North Carolina; Portland, Oregon; and Burnaby, British Columbia, and the company operates six regional parts distribution centers.

Freightliner is fast becoming the driving force in the U.S. trucking industry – a U.S. company with a shareholder – Daimler-Benz, A.G., Germany – well renowned and respected for quality, product engineering and technology standards, in fact, an industry leader.

GARRETT

THE GARRETT CORPORATION, with some 20 major divisions, subsidiaries and associated elements worldwide, designs and manufactures systems, products and components for the aerospace, energy management and surface transportation fields.

Founded in 1936 by the late J.C. "Cliff" Garrett as a small supplier of aviation accessories, Garrett has evolved into a well-balanced industrial complex of more than 21,000 employees in plants and offices in nearly every country in the western world.

The Garrett Corporation is one of The Signal Companies, a multi-industry company with strong, strategic positions in the aerospace, electronic communications, energy service, transportation and construction industries.

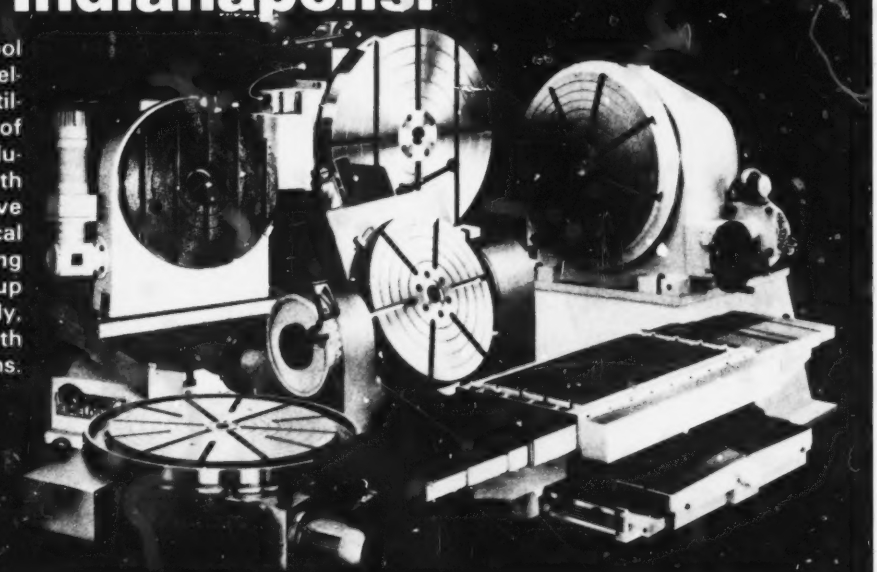
Garrett equipment is used on commercial, military and business aircraft, in automotive applications and in industry. Most of its products involve the use of very high-speed rotating machinery, heat-transfer technology and electronic, hydraulic and pneumatic control technology.

As a leading supplier of propulsion engines for general and commuter aviation, Garrett produces two turbofan engines, the TFE731 and the ATF 3-6, along with the TPF331 turboprop engine. It is also manufacturing the F109-GA 100 turbofan engine for the U.S. Air Force T46A Next Generation Trainer (NGT).

Another major Garrett product line is that of environmental control and also cabin pressure control systems for aircraft. Environmental control systems, in which Garrett

Where do you go for extraordinary German precision? Indianapolis!

When it comes to machine tool tables, the world turns to Eimeldingen. For accuracy. For versatility. For service on a wide range of requirements in dividing, graduating and coordinate tables...both standard and custom. We have nine standard horizontal, vertical or fully inclining models...ranging from 12" to 160"...with payloads up to 80 tons and over. Very simply, we can solve your problems...with a long list of production options. Just tell us your requirements.



EIMELDINGEN

302 S. Harding • Indianapolis, IN 46222 • 317-638-0298

pioneered, are and have been produced for more than 75 different types of U.S. and foreign military aircraft, and 35 different domestic and foreign civil airplanes.

Garrett also produces for aircraft use a variety of computers, area navigation and energy management systems, auxiliary power units, inflatable survival equipment and emergency locator beacons.

The company manufactures turbochargers for industrial, automotive and aircraft use; gas turbine engines of numerous sizes; pneumatic controls and systems; hydraulic motors and pumps; castings for turbomachinery, aircraft systems and related high technology components; industrial regenerators and recuperators; and thick and thin film hybrid microcircuits.

Goldman Sachs

GOLDMAN, SACHS & CO., one of the world's leading investment banking and brokerage firms, was founded in 1869 as a dealer in commercial paper. Over the succeeding decades, Goldman Sachs has entered into many other investing and financing service areas on a broad scale. Today it is among the leaders in nearly every major activity in which it engages.

Continuing in the tradition of its founders, Goldman Sachs retains its longstanding position as the world's leading commercial paper dealer, with 1982 sales in excess of $375 billion. We are the leading dealer in international commercial paper, with 54 international issuers including Bayerische Hypotheken-und Wechsel-Bank AG, Hoechst Capital Corporation, Nixdorf Computer Corporation, Thyssen Holding Corporation and Westdeutsche Landesbank Girozentrale. In addition, we were the first to offer foreign currency commercial paper—providing proceeds in such currencies as Sterling, Deutschemarks, Swiss Francs and Japanese Yen.

In the U.S. domestic markets, Goldman Sachs offers a number of investment banking services to international clients. These include medium and long-term public offerings and private placements, tax-exempt financings, real estate financing and sales, and lease and project financing. Our leadership position in the U.S. securities markets is based upon our strengths in investment banking, distribution capability and secondary market-making activities. Since 1980 we have been the lead manager of public financings in the U.S. domestic markets for Barclays Bank PLC and Barclays North American Corp., Caisse Nationale des Telecommunications, Republic of Finland, Ito-Yokado Co., Ltd., Novo Industri A/S, Rodime PLC, TDK Electronics Co., Ltd. and Tricentrol PLC.

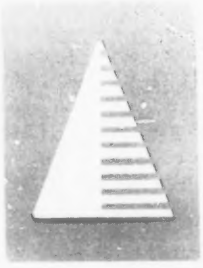
Our expertise in sales and trading activities include equity and fixed income market making, block trading, options trading, securities arbitrage, and commodities and financial futures; all supported by an outstanding investment research team.

On a worldwide basis, we provide assistance to our clients in Eurobond financing, medium- to long-term currency transactions, syndicated bank loans, project financing, and government and corporate advisory services. And we are one of the foremost factors in transnational mergers and aquisitions.

Goldman Sachs has a firm commitment to international banking among all of its over 3,000 employees based in 16 offices across the United States and overseas.

JOSEPH GRAF & CO.

JOSEPH GRAF & CO. is a medium-sized accounting firm which has been in existence for over 30 years. Several partners and staff members are bilingual. Our clients are located



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throughout the United States. The firm offers services which include auditing, tax preparation and planning, management services, mergers and acquisitions. We have particular expertise in dealing with the German, Swiss and Austrian tax treaties.

Financial statements and tax planning memorandums are prepared in German as well as English. Due to our expertise, we offer a unique type of service to American subsidiaries of divisions of foreign entities.

In 1982, over three thousand people worked within the Henkel of America group. Henkel has sixteen production locations in the U.S., the major ones being in Kankakee, Illinois; Kenedy, Texas; Keokuk, Iowa; Ambler, Pennsylvania; and Hoboken, New Jersey.

The parent company, Henkel KGaA, headquartered in Duesseldorf, had worldwide sales of DM 9+ billion in 1982. With approximately 100 affiliates throughout the world, foreign sales, including exports from Germany, accounted for 62% of total sales.

Hessische Landesbank International S.A., full-service branches in New York and London. These facilities abroad and an active global network of correspondent banks provide Helaba's clients with the full scope of international services.

Hessische Landesbank acts as banker to the State of Hesse and performs clearing and other centralized services for Hesse's 52 regional Sparkassen, both of which are its shareholders.

Henkel

During the past decade HENKEL's activities grouped within its U.S. subsidiaries have demonstrated successful growth. 1982 sales exceeded $400 million, and business is geared to continued development with emphasis on growth areas where Henkel has superior technology to meet specific customer needs.

Henkel of America, headquartered in New York, is the parent and holding organization for Henkel's business in the United States. Principal operating organization is Henkel Corporation, Minneapolis, Minnesota, which is structured into four decentralized business groups and two central staff support groups: technology and control & administration. Each of the business groups contributes significant portions to sales and profits. The product lines are diversified and serve many different customer groups in various countries.

The Functional Products group manufactures and sells food ingredients and water soluble polymers used in a wide range of applications, a major one being petroleum drilling. The Chemical Products group encompasses a broad line of chemical specialties such as resins, adhesives, vitamin E, tocopherol antioxidants, organic specialties for cosmetics, pharmaceuticals and water treatment, leather and textile auxiliaries, and operations in Canada. To a large extent products are based on natural, renewable raw materials such as fats and oils, wheat, locust and soy beans, and guar gum.

Amchem Products, Inc., Ambler, Pennsylvania, which has been made a division of Henkel Corporation, makes inorganic specialties for metal treatment and rust prevention for automotive, container and metal fabrication industries, and cleaning chemicals for the food processing industry.

The fourth business group combines the Mining Chemicals division and International Subsidiaries of Henkel Corp. in Brazil, Mexico, Venezuela, Italy, Ireland, Japan, and South Africa. Mining chemicals are primarily sold to copper and uranium recovery companies in many countries.

Helaba

Hessische Landesbank -Girozentrale

Headquartered in Frankfurt and an integral part of the city's domestic and international banking community, HESSISCHE LANDESBANK is among Germany's top 10 banks, with total assets at the end of 1982 of more than DM 62 billion.

As a large German universal bank concentrating on wholesale banking, Hessische Landesbank offers a comprehensive program of facilities geared to the needs of big corporations, governments and government entities, and financial institutions. These facilities include:

- International financing with special emphasis on medium to long-term fixed-rate DM loans. The Bank's global lending commitments are currently spread over more than 50 countries.
- Foreign trade financing, including documentary credits, letters of credit, government guaranteed export loans, non-recourse export financing (a forfait), and international payments and collections. The Bank is a member of S.W.I.F.T.
- Foreign exchange dealing, not only for the Bank's customers and Hesse's Sparkassen, but also as market maker for its worldwide correspondents in spot, forward, and Eurocurrency deposits.
- Money market operations, serving central banks, other financial institutions and corporate clients.
- International capital market financings, including Euro-DM issues, publicly offered foreign currency issues, private placements, and foreign share placements.
- Investment advisory services and portfolio management. Hessische Landesbank is in permanent contact with banks and securities dealers in all major international security markets.
- Euromarket financing and services through its wholly-owned Luxembourg subsidiary

HOESCH

For over a century, the name "HOESCH" has been synonymous with the steel world. Started as a family business in 1871, Hoesch has grown into one of the most important German producers of steel and steel finished products.

Many contributions to technical progress, especially in the fields of the metallurgy of iron and the production and processing of steel, as well as strong impetus to industrial development and marketing growth mark the path of this company up to the present time.

Our products range from semi-finished steel to rolled steel in all grades, such as sheets and plates, bars, sheet piling and mining sections. Our processed steel include such coated products as galvanized, plastic-coated sheets and tin plate; special sections, steel strapping, pipe and tubing, as well as castings and forgings. Hoesch is an important factor in the manufacturing of machinery and heavy equipment.

With all this capability, it was only natural that the Hoesch group expanded its activities worldwide, and today has offices and representatives, as well as manufacturing plants, in every major country in the world.

Hoesch America Inc. was started in the U.S. in 1957 and the main purpose was to cover an important market for the Hoesch group. Over the years it led to a steady growth of international trading, including exporting from the U.S. to various countries in the world. Hoesch America became a significant member of the international steel community.

In the 1960's Hoesch decided to further invest in the U.S. and today owns several successful manufacturing plants.

Hoesch Tubular Products Co., Baytown, TX is engaged in upsetting, heat treating and threading of oil country tubular goods. The plain end tubular goods in sizes 2.3/8" through 13.3/8" are manufactured at the Hoesch pipe mill in Germany, imported into the U.S., finished at Hoesch Tubular Products and sold in the U.S. for oil drilling.

Delta Strapping Industries Inc., New York, NY is a manufacturer of plastic strapping tools and seals, and distributor of steel strapping and accessories.

Rotek Inc., Aurora, OH is a manufacturer of bearings, seamless rolled rings and carriage parts, as well as closed die forgings, which are sold to equipment manufacturers of cranes, excavators, dredgers, railway turntables, rotary furnaces, material handling equipment and similar heavy-duty equipment.

PHILIPP HOLZMANN
Aktiengesellschaft

PHILIPP HOLZMANN AG began as a family business before developing to its present significance as a Company with worldwide reputation in the construction industry. The Company, founded by Johann Philipp Holzmann in 1849, was at the beginning mainly involved in railway construction. Business was soon extended to all areas of building and heavy construction.

Today Holzmann is one of Germany's leading industrial undertakings and is ranked among the top international construction companies.

Domestic business is dealt with by the parent company at eight main branches, which have sole responsibility, 24 ancillary branches and a General Contractor's division at the Central Administration for turnkey construction. The technical divisions at the Central Administration back up the sectors involved in construction.

20 subsidiary companies are employed in the specialized field of precast element construction, prefabricated housing, special heavy construction, foundation and waterway construction, road construction, also consulting and offshoe work, natural stone quarrying and housing administration.

At the international level HOLZMANN ranks with its volume of construction among the major companies in the industry. In 1980, projects were carried out in 29 countries under the unified supervision of the HOLZMANN group. The subsidiary companies, whose activities as yet have been confined to Germany, are taking over an ever increasing number of contracts abroad.

The Company has been working in other European countries as early as 1882. The first contract in 1893 for railway construction in Asia Minor marked the beginning of the HOLZMANN tradition in the Near and Middle East. The acquisition of the J.A. JONES CONSTRUCTION COMPANY, Charlotte, NC, and of the LOCKWOOD GREENE ARCHITECTS/ENGINEERS, Spartanburg, SC, extended the sphere of successful international activity to the American Continent.

The widely dispersed geographical locations of the Company's activities are conducive to stability and growth.

In 1982, the Holzmann Group achieved a total building volume of $3.1 billion, 30.5 % of this in the Federal Republic of Germany, 44.7 % in the USA and 24.8 % in other foreign countries (particulary in the OPEC states).

KLOCKNER-MOELLER CORPORATION is a specialist in the low voltage industrial motor control field and is a subsidiary of the Klockner-Moeller Elektrizitaets GmbH in Bonn. A recognized market leader in West Germany, K-M Corp. combines experience, sound engineering practices and customer service in promoting their full line of quality electrical and electronic equipment. This includes motor control center, main distribution boards, circuitbreakers, interruptors, fusible disconnect switches, motor starters, heavy-duty pushbutton units and pilot devices, control relays, and limit switches, engineered custom control panels as well as solid state industrial relays and microprocessor-based freely programmable controllers. Its products are designed and tested to meet all pertinent national and inter-

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INNOVATION IN CONSTRUCTION

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6000 Frankfurt 1, West Germany P.O. Box 110933 Tel. 49-611-2621 Telx. 841-411 145 ph d

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A unique decentralized corporate structure enables K-M to provide its customers with direct access to first-rate technical service. It has established seven independently operating factory branches located across the U.S.A.

Klockner-Moeller Corporation locations in the U.S.A. are as follows: Fairfield, New Jersey; Atlanta, Georgia; Chicago, Illinois; Houston, Texas; Tulsa, Oklahoma; Los Angeles, California; and San Francisco, California.

KMG

KLYNVELD MAIN GOERDELER (KMG) is the fourth largest accounting firm in the world with 27,500 professional and support staff in each of its 436 offices throughout the world. Its prominent member firms in more than 60 countries include Main Hurdman/KMG, in the United States, Deutsche Treuhand-Gesellschaft (DMG/KMG), in Germany, Fides Revision Fides/KMG in Switzerland and Alpen-Treuhan GMBH/KMG, in Austria.

In the United States, MAIN HURDMAN/KMG maintains a close working relationship with the other German speaking member firms. Through its 80 offices, Main Hurdman/KMG is well qualified to provide accounting related services for German-based companies doing business in the United States and for U.S. firms with interests in Germany.

Through our 80 offices in the United States, we are well qualified to provide accounting related services for German-based companies doing business in the United States and for U.S. firms with interests in Germany.

Auditing Services: Main Hurdman/KMG is skilled in the examination of financial statements prepared in response to U.S. or German reporting requirements, and attuned to the needs of the regulatory authorities and financial institutions in both countries.

Tax Services: The firm's wide range of tax services include tax planning; advice and assistance in complying with local, national and foreign tax laws; assistance in dealing with tax authorities, and counseling on tax problems of individuals and corporations. Its fiscal expertise extends to other tax-related areas such as mergers and acquisitions, transfer pricing, expatriate tax services, forms of business organization for multinational entities, offshore financing and operating in duty-free zones.

Management Consulting Services: Main Hurdman's/KMG's consulting services are designed to assist management by providing professional counsel in disciplines where internal expertise is not available. They include advice on designing and implementing management information and financial reporting systems to meet subsidiary and parent company requirements, designing electronic data processing applications, budgeting, production planning, inventory control and project planning.

All professional services are performed under the constant direction of a Main Hurdman/KMG engagement partner, who can draw upon the full resources of the firm, including its national and international tax expertise. For U.S. branches or subsidiaries of German companies, the engagement has the additional support of several KMG-Wirtschaftspuefer assigned to the National Office of Main Hurdman/KMG.

FRIED. KRUPP GmbH of Essen, Germany, with a worldwide reputation as a leader in industrial technology and engineering excellence, has a long-standing commitment to serve the US market in many diversified areas.

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Among Krupp subsidiaries and affiliated companies established in the United States are the following:

Krupp International, Inc., of Harrison, New York, has two major divisions. Its Krupp Industrietechnik (KI) Division is active in the fields of bulk materials handling, metallurgical plants, rolling mill installations, cranes, as well as equipment for rubber, vegetable oil seed processing, and drilling equipment for mining and large diameter holes for the oil industry, water wells and foundation work.

The Krupp Atlas Elektronik (KAE) Division of Rahway, New Jersey, serves the marine markets with their radar and collision avoidance systems as well as their sonar-operated fish-finders. Also, for the survey of coastal areas and river beds the KAE Division offers highly specialized sonar equipment that provides greatest accuracy.

Krupp MaK Diesel Inc. of Rosemont, Illinois, is marketing the product lines of MaK in Kiel, Germany, predominantly diesel engines for all types of ships, as well as for diesel powered generating plants.

Krupp Steel Products and Krupp Specialty Steel of Houston, Texas, supply the complete range of carbon, alloy and stainless steel grades in shapes and sheets. Forgings go to various US industries.

Polysius Corporation of Atlanta, Georgia, transfers the most modern cement plant technology to the US market.

Krupp Wilputte Corporation of Murray Hill, New Jersey, are engineers-constructors of coke ovens and coal chemical plants, related auxiliary machinery, as well as pollution control equipment, systems and devices. Hot Blast stoves and sinter plants are also a part of Krupp Wilputte's technology and expertise.

GK

GEBRUEDER KULENKAMPFF, founded in 1806, is an international trading company with a world-wide network of subsidiaries, branches and agencies.

In more than 175 years of existence, we have acquired a leading position in our main import activity, leaf tobacco, as one of Europe's most recognized companies. Gebrueder Kulenkampff is still privately owned and with annual sales exceeding U.S. $120 million, we rank among the leading trading houses within the Bremen business community.

In the field of technical products we have gained a reputation as specialized exporters of machinery, parts and supplies to the minerals, energy, construction and transport industries.

We provide international cement manufacturing companies, underground and open pit mines, mine supply houses, construction equipment distributors, manufacturers and distributors with machinery, process equipment, supplies, diesel parts and a complete range of spare parts. Our specialized parts supply system is aimed at those international mills, mines and processing plants in need of genuine OEM parts, but which find their present purchases too costly. For the cement and mining industry we also render consulting, erection and commissioning services.

In addition to fifteen active international subsidiaries serving our tobacco interests, we have affiliated companies in New York, Montreal and London, as well as agencies in Nairobi, Johannesburg and Sydney for technical sales support.

INTERTACTOR GK also has a financial interest in INTERTACTOR, Gevelsberg, Germany, with a workforce of 650, annual sales of more than U.S. $100 million, manufacturers of crawler undercarriages, OEM suppliers to the world's leading construction and mining equipment manufacturers.

Equipment · Machinery · Industrial Supply
Wear Parts · Diesel Engine Parts

To serve these industries:

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Construction
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Transportation
Marine

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Associated companies in:
New York (USA) – Montreal (Canada) – London (England)

Lufthansa

LUFTHANSA GERMAN AIRLINES showed an increase in earnings for the first half of 1983 and expects to end the year in the black if developments remain favorable. Gross operating revenues for the January-June period were 3.57 billion Deutsche marks with earnings increasing at a higher rate than costs putting the German flag carrier in a better position than it was at the end of the first half of 1982.

Lufthansa improved earnings in 1982 despite the decrease in demand caused by the continuing difficult economic sitution. Net profit for the year was 45 million marks compared to a profit of 5.6 million marks in 1981. A five percent dividend was paid to both preferred and common shareholders on the profit.

For 1982, total revenues were up 4.8 percent while the growth in expenditures was held to 4.3 percent. Production increased 8.8 percent to 6.41 billion ton kilometers compared to 5.89 billion in 1981.

Operating revenue was 6,767 billion marks, an increase of 478 million marks over 1981. Total operating expenditures were 6.880 billion marks resulting in an operating loss of 113.5 million marks, considerably less than in 1981.

Other operating areas – such as technical services, flight training, inflight and ground support services – showed a profit of 146.4 million marks resulting in an operating profit of 32.9 million marks. Non-operating profit was 12.1 million marks.

For 1983, Lufthansa management sees problems emerging however as a result of a renewed rise in fuel prices, the high dollar exchange rate and interest rates. Discount fares could also cause difficulties if they become more widespread thus lowering average earnings per ton kilometer.

Cargo posted the largest gain for the first six months with cargo ton kilometers up 17.1 percent to 914.2 million. Cargo volume flown rose 10.8 percent to 217,752 metric tons. Total revenue ton kilometers increased 8.7 percent to 1.96 billion, while capacity rose 7.1 percent so that the overall load factor was up .09 percent to 60.3 percent.

Passenger traffic rose 2.3 percent in revenue ton kilometers to 1.0 billion, while the number of passengers flown was 6,910,795, up just 1.2 percent. The seat load factor declined 1.8 percent to 57.3 percent. Mail was down in tonnage but showed a slight gain of 1.1 percent in ton kilometers.

Lufthansa's capital spending in the first six months totaled 524 million marks, the bulk of which was for aircraft and reserve engines. Six of the new Airbus A310 aircraft have been flying with Lufthansa since early July. The airline's fleet numbers 116 aircraft with an average age of five years.

LURGI

LURGI, an engineering group within Metallgesellschaft AG Frankfurt am Main, is engaged in the planning, design, engineering and construction of the plant and equipment for a wide variety of projects in the chemical, metallurgical and other industries.

Lurgi, with its three operating Frankfurt companies,

- Lurgi Chemie und Huettentechnik GmbH
- Lurgi Kohle und Mineraloeltechnik GmbH
- Lurgi Umwelt und Chemotechnik GmbH

and with its U.S. operating company

- Lurgi Corporation

is in a particularly good position to take up the challenge of the current world economic situation - increasing scarcity of raw materials, high energy prices, more stringent pollution control regulations, and is able to tackle many of the technological problems arising from this situation.

The Lurgi Companies have occupied a position in the American market for decades, and have since 1979 been represented by Lurgi Corporation in River Edge, N.J. and Belmont, CA. Furthermore, Lurgi's international organization includes 15 subsidiaries in Europe and overseas, as well as several representatives and agents in more than 40 countries.

These are the activities of Lurgi: Supply of complete turnkey plants, plant units and equipment based on customer-owned processes, Lurgi processes, licensed and standard processes, including construction, start-up and technical guarantees. Extensive up-to-date laboratories and pilot plants, on a semi-industrial and industrial scale, are available for research and experimental work.

The Lurgi Group does not depend on its own manufacture of equipment, machinery and other plant items, and is, therefore, free to select the best qualified manufacturers on the world market, often in the client's country.

Lurgi will also organize proportional or complete financing of a project either on a national or multinational basis ("financial engineering").

The structure and engineering practices of the Lurgi Group permit it to suggest and realize in each individual case the most suitable type of contract.

The Lurgi Group at present has a staff of about 4,500 in Frankfurt and about 1000 abroad. 3000 staff members are engineers and technicians.

The turnover of the Lurgi Group in 1981/82 was DM 1.9 billion, the flow of new orders DM 2.7 billion, and the backlog DM 3.8 billion. Lurgi expended 3.4 million engineering hours in the fiscal year 1981/82.

The Lurgi Companies are a wholly-owned subsidiary of Metallgesellschaft AG, Frankfurt am Main. All figures are consolidated in the Metallgesellschaft profit and loss statement, and thus Lurgi's financial results are not published separately.

Worldwide Transportation

Lykes Lines

LYKES BROS. STEAMSHIP CO., INC., a subsidiary of Interocean Steamship Corp. of Tampa, Florida, operates a fleet of 46 American-flag cargo ships on trade routes covering five continents.

This company, headquartered in New Orleans, entered the shipping business in 1900 and today offers regular liner services from ports on the U.S. Gulf, West and South Atlantic coasts and the Great Lakes and St. Lawrence Seaway.

Lykes serves shippers on the following trade routes: Gulf/Northern Europe & United Kingdom; Gulf & South Atlantic/Mediterranean; Gulf/South & East Africa; Gulf/West Coast of South America; Gulf/Far East; West Coast/Far East, and Great Lakes/Mediterranean.

Lykes has U.S. offices in New Orleans, Houston, San Francisco, New York, Chicago, St. Louis, Galveston, Beaumont and Dallas, and foreign supervisory offices in London, Antwerp, Genoa, Durban, Mombasa, Hong Kong, Tokyo and Callao.

The company's fleet comprises three versatile SEABEE barge, container and heavy-lift ships; five roll-on/roll-off vessels and 38 breakbulk and semi-container vessels. All of Lykes' ships are self-sustaining and can carry containers.

M·A·N

M.A.N. is one of the leading European manufacturers of heavy mechanical equipment, trucks and buses.

M.A.N. A.G. with 45,000 employees, has sales of close to DM7 billion. The M.A.N. Group, with German subsidiaries in which M.A.N. A.G. has a majority interest, reports sales of about DM10 billion, with a workforce of some 64,000. M.A.N.'s export share has been steadily increasing and now exceeds 60%.

M.A.N.'s diversified range of products, all developed from within the company, over its 140 year history, serves broad segments of today's markets, such as basic industries, power generation, transportation, communication, civil engineering, and industrial equipment-through research, development, design, engineering, manufacture, supply and erection of mechanical equipment, as well as complete systems.

Intensive efforts and resources invested in innovative and future-oriented projects – such as space exploration, solar and wind energy, waste heat recovery, cogeneration, components for coal gasification, chemical waste destruction, transportation systems or new materials-are

aimed at continuing M.A.N.'s leadership in engineering.

The company is structured into five Product Divisions:

Commercial Vehicles

Trucks, buses and municipal vehicles contribute more than 50% to the sales of M.A.N. In the U.S., M.A.N. Truck and Bus Corporation, with a plant in North Carolina, manufactures articulated buses for public transit.

Diesel Engines

In 1980, Burmeister and Wain, the Danish diesel manufacturer, was acquired by M.A.N. M.A.N.-B&W Diesel offers the widest range of diesel engines in the world.

Mechanical and Structural Engineering

Among its many engineered products in service in the U.S., are 850MW steam turbine generators, steel foundations, material handling plants.

Mechanical and Industrial Plants

M.A.N.-GHH, Sterkrade, produces, among others, equipment for the steel petrochemical and mining industry. Four floating dry docks for shipyards, large axial compressors and gas coolers for synthetic fuel plants, deep mine hoists, are examples of M.A.N.-GHH supplies to the U.S.

New Technology

Carries out R&D work in energy, environment, raw materials, electronics, space exploration, transportation and material technology.

M.A.N.-Roland, a wholly-owned subsidiary of M.A.N., is an internationally leading manufacturer of printing machinery. M.A.N.-Roland USA, Inc., located in New Jersey, produces web-fed presses for the U.S. and export markets.

American M.A.N. Corporation, with offices in New York, San Francisco and Houston, is responsible for marketing, sales and service of M.A.N. products in the U.S.

MBB

The roots of MESSERSCHMITT-BOELKOW-BLOHM GmbH include a great number of aviation's "Who's Who"– Siebel, Blohm & Voss, Boelkow, Focke-Wulf, Weser-Flug, VFW. But the lineage can be traced back to the turn of the century to three very familiar names – Messerschmitt, Junkers and DFW.

Hugo Junker's company, founded in 1895, manufactured such famous aircraft as the F-13, G-24, and JU-52. The company also developed the first plane with cantilever wing metal construction and the world's first low-wing cantilever monoplane.

Willy Messerschmitt's experiences in gliding led him to form his own company in 1923 at the age of 25. In addition to his famous aircraft, the Me-109, his accomplishments included the propeller-driven speed record of 35 years, the first operational rocket-powered airplane and the first operational jet fighter-bomber.

MBB Today

In 1968, Boelkow and Messerschmitt renewed their relationship through a merger that created MB. In 1969, MBB was formed through a merger with Hamburger Flugzeugbau.

The merger of MBB and VFW in 1981 was a milestone in aerospace history, making MBB the second-largest aerospace employer in Europe with approximately 40,000 employees and annual sales of 2.8 billion.

Today, MBB is applying its aviation heritage and technical excellence to six major business areas:

- TRANSPORT AIRCRAFT DIVISION
- MILITARY AIRCRAFT DIVISION
- DYNAMICS (WEAPONS SYSTEMS)
- SPACE
- NAVAL AND SPECIAL TECHNOLOGIES
- HELICOPTER AND TRANSPORTATION SYSTEMS

• The BO-105 helicopter is the longest-running program of the Helicopter and Transport Systems Division. Manufacturing takes place at the Donauwoerth and Laupheim factories in West Germany, employing over four thousand people.

The BO-105 was the first light twin engine helicopter in the world to be designed from the beginning for the commercial helicopter market. It was the first light twin engine helicopter in the world to be FAA certified and was introduced to the American commercial market in 1972.

THE HELICOPTER CORPORATION

Marketing and customer service for the MBB family of twin jet helicopters in North and Central America are managed by MBB Helicopter Corporation, West Chester, Pennsylvania, a wholly-owned subsidiary of Messerschmitt-Boelkow-Blohm.

MBB Helicopter Corporation was incorporated on May 8, 1979. With a number of former Boeing employees on-board, most with 20-25 years experience, plus the assets, including spares, tools and equipment, MBB Helicopter Corporation was more an on-going concern than a newcomer to the marketplace.

Headquartered on a 42-acre site at the Brandywine Airport in West Chester, Pennsylvania, MBB Helicopter Corporation offers full-service capabilities for the growing family of BO-105 and BK-117 twin jet helicopter operators. A 35,000 square foot North American Service Center houses spares, administration, training, aircraft completion and modification work. A 30,000 square foot, two-story office building includes marketing, customer service, administration and procurement activities.

MBB Helicopter Corporation provides seven-day-a-week, 24-hour-a-day support of MBB helicopters in the U.S. A complete inventory of spares and exchange components is maintained at the West Chester facility, and computerization allows MBB to fill 98 percent of its parts requests on the same day. Additional customer support is provided through a network of regional technical representatives, service stations and component repair centers.

MBB Helicopter Corporation presently has North American sales offices located in or near Teterboro, New Jersey; Atlanta, Georgia; Houston, Texas; Columbus, Ohio; Denver, Colorado; San Francisco, California; Ottawa, Ontario and Calgary, Alberta.

mtu

MTU OF NORTH AMERICA, a subsidiary company of MTU Motoren- und Turbinen-Union Friedrichshafen GmbH, is a part of the worldwide sales and product support network of MTU Friedrichshafen for their compact high-speed diesel engines with power ratings ranging from 400 up to 10,000 HP. It is situated in Sugar Land/Houston. MTU of North America's responsibilities are the marketing and support of MTU products and depot of spare parts which can be sent anywhere in the U.S. market.

The permanent distribution and product support center contains the most modern technical equipment. This allows complete overhauls of MTU engines. Every engine overhauled and reassembled of MTU of North America will be checked prior to delivery or reinstallation on the test stand with respect to performance, fuel consumption and perfect working order of all components. The spare parts depot is established to guarantee availability of parts on a 24-hour-basis.

To continue the tradition of high level after-sales support which the customer has been accustomed to for decades from MTU Friedrichshafen, there is an experienced technical team trained intensively in Friedrichshafen for the after-sales assignment.

MTU activities: Development and manufacture of compact high-speed diesel engines ranging in output from 400 to 10,000 HP, high-output marine gears, flexible and fluid couplings and electronic control and monitoring systems.

MTU Friedrichshafen:
-annual turnover of over DM 1,125 million
-approximately 6,000 employees.

MTU Group:
MTU Friedrichshafen together with MTU Muenchen – the leading German aero engine builder – forms the MTU Group featuring:
-an annual turnover of over DM 2.14 billion
-approximately 12,400 employees.

MANNESMAN today is an enterprise whose worldwide scope of activities covers the fields of mechanical and plant engineering, production of pipe and tubular products using company-made steel, information technology and electronics as well as trading with its own and externally manufactured products.

The name of Mannesmann is linked to the first process for the manufacture of seamless steel tubes, invented by the brothers Max and Reinhard Mannesmann. The enterprise founded in 1890 was based on their inventions and expanded by adding welded steel tubes to its production range. It has since developed into one of the world's leading producers of steel pipe and tubing.

In a second phase of development, Mannesmann began supplying its pipe mills with company-made steel. A vertically structured coal and steel concern was formed which not only produced its own raw materials, such as coal and crude steel, but also the finished pipe.

In the Sixties, a further phase of development began: based on decades of experience, the goal was to expand the areas of new technology and to open up new and promising markets. The most significant steps along the way were the divestiture of the ore and coal mines, the division of labor with the Thyssen company, the pipe mills of both companies being merged to form Mannesmann-Roehren-Werke. The acquisition, expansion, and internationalization of Rexroth, the hydraulics manufacturer, the acquisition of Demag, a world-renowned manufacturer of machinery, and the further development of the piping construction division into Mannesmann Anlagenbau were further steps in the framework of this phase of development.

The commitments entered into by Mannesmann in the market of informatics in the years 1981 and 1982, were another necessary step to secure the future of the enterprise even more, and thus to make jobs safer. The acquisition of Hartmann & Braun (measuring and automatic control systems), and Kienzle Apparate (data systems technology), as well as an interest in ANT Nachrichtentechnik (communications technology) are proof of the fact that the once chosen way to broaden the technological basis of the enterprise and to open up new markets of growth for it, is consistently followed up. Purposefully, Mannesmann is thus changing into a technology concern.

The capital stock of about DM 1.1 billion is held by approximately 180,000 shareholders, about 53,000 of whom are active or retired members of the Mannesmann staff.

In the US, the Mannesmann organization includes the following companies:

Mannesmann Capital Corporation, New York, NY

Mannesmann Oilfield Tubulars Corporation, Houston, TX

Mannesmann Hansen Corporation, New York, NY

Mannesmann International Alloys, Inc., Sugar Land, TX

Mannesmann Pipe & Steel Corporation, Houston, TX

Mannesmann Demag Corporation, Cleveland, OH

Mannesmann Demag Wean Company, Pittsburgh, PA

American Lohmann Corporation, Hillside, NJ

The Rexroth Corporation, Bethlehem, PA

Mannesman Tally Corporation, Kent, WA

Argo Instruments, Inc., Winchester, VA

MANUFACTURERS HANOVER TRUST, a major international bank based in New York, with over $60 billion in assets and a worldwide network of over 100 strategically located offices, subsidiaries and affiliates in 40 countries around the world, is a wholly-owned subsidiary of Manufacturers Hanover Corporation. The ability to marshal large amounts of financing on a worldwide scale has made Manufacturers Hanover an important lender to corporations, banks, government and government agencies worldwide.

The Bank's International Division provides a wide range of services including depository facilities, export-import trade financing, as well as regular commercial loan and credit accommodations, funds transfer, cash management and foreign exchange services. The corporation's foreign loans portfolio of $20 billion is well diversified geographically, with broad representation in Europe, Asia, Latin America and the Middle East.

For international customers interested in U.S. investments the Bank offers money market instruments, coupon and bond collections, portfolio management and securities safekeeping services including Geopac – Manufacturers Hanover's total electronic securities system for immediate and accurate reporting, processing and settlement of securities transactions.

In West Germany, Manufacturers Hanover Trust Company operates full service branches in Frankfurt, Hamburg, Hanover and Duesseldorf, and representative offices in Frankfurt and Munich. Manufacturers Hanover's German offices concentrate on the local market, but also work with multi-national corporations in all phases of commercial banking including export financing and buyer's credits.

As the first Western bank to open a branch in Eastern Europe, Manufacturers Hanover's Bucharest Branch specializes in international commercial services related to East European trade and economic development and is uniquely qualified to give advice and assistance to corporations pursuing business opportunities in Romania.

The Bank's traditional lending activities have expanded into leasing, factoring, consumer finance, mortgage banking, industrial and personal installment loans, export financing, investment management, real estate and trust.

The earliest United States activities of the world's oldest automaker, the DAIMLER-BENZ AG, can be documented back to 1883 – eight years before Henry Ford's famous Quadricycle – when an agreement was signed between Gottlieb Daimler and John Steinway, the famous American piano manufacturer. Steinway spent the next 19 years producing under license a number of Daimler products, including engines, light trucks and passenger cars.

From these humble beginnings, the Stuttgart firm has broadened its American horizons to include four major subsidiaries:

– Mercedes-Benz of North America, distributor of Mercedes-Benz passenger cars, Unimogs and industrial engines, with headquarters in Montvale, N.J.

– Freightliner Corporation, the manufacturer and marketer of medium-(Mercedes-Benz) and heavy-duty (Freightliner) trucks, with headquarters in Portland, Ore.

– Euclid, manufacturer of off-highway heavy haulers, with headquarters in Cleveland.

– Mercedes-Benz Credit Corporation, a multi-faceted finance company, with headquarters in Norwalk, Conn.

MBNA has a sales and service network comprised of 414 passenger car dealers supported by seven zone offices (New York, Washington, Jacksonville, Houston, Chicago, Los Angeles and San Francisco); seven vehicle preparation centers (Newark, N.J.; Baltimore, Jacksonville, Chicago, Houston, Los Angeles and San Francisco); and five parts distribution centers (Teaneck, N.J.; Baltimore, Jacksonville, Chicago, and La Mirada, Calif.).

Earlier this year, the company broke ground for two new parts distribution centers (Franklin Township, N.J., and Harmans, Md., to replace

smaller ones in Teaneck and Baltimore) and an office building/training center adjacent to the corporate headquarters in Montvale.

MBNA also owns and operates two passenger car retail outlets, in New York (Mercedes-Benz Manhattan) and Los Angeles (Mercedes-Benz Hollywood, which will be moved next year into a new seven-story facility the company is building a few blocks from the present locale).

MBNA's subsidiaries include Mercedes-Benz Canada, distributor of Mercedes-Benz passenger cars as well as diesel trucks in Canada, with headquarters in Toronto, and Mercedes-Benz Service Corporation, which conducts exhaust emission tests at two laboratories in Michigan and Colorado.

Freightliner, which holds more than 10 percent of the U.S. heavy truck market, operates two assembly plants in North America (Mount Holly, N.C., and Portland), seven parts distribution centers (Atlanta, Chicago, Dallas, Los Angeles, Portland, Toronto and Langly, B.C.), and seven Consolidated Metco plants (Portland; Spokane, Wash.; Sidney, Ohio; Monroe, N.C.; Clackamas, Ore.; Cashiers, N.C., and Chandler, Ariz.) which produce lightweight aluminum castings and structural foam components for automotive applications.

The truck company also operates a plant in Hampton, Va., where semi-knocked-down units imported from Mercedes-Benz in Brazil are assembled into Mercedes-Benz trucks.

In 1982, Freightliner's 273 dealers sold 8,086 class 8 trucks in North America, while 179 Mercedes truck dealers sold 2,851 medium-duty vehicles.

Euclid manufactures off-highway heavy haulers in the United States, Canada, Australia, Belgium and South Africa. The company's product line consists of rear dumpers ranging in capacity from 25 to 170 tons; coal haulers at 120 and 150 tons; and bottom dumpers with capacities of 30, 70 and 110 tons. These are sold to the construction and mining industry around the world.

The Mercedes-Benz Credit Corp. is a financing unit which provides assistance to the various dealer groups (and their customers) of the three North American vehicle distribution companies (MBNA, Freightliner and Euclid).

These four firms employed 6,719 persons last year, approximately 3.6 percent of the 186,000 Daimler-Benz employed worldwide, in more than 170 countries. The Stuttgart firm produced a total of more than 700,000 passenger cars and commercial vehicles during 1982. The leading market outside of West Germany for the company's passenger cars continued to be in the U.S., where MBNA's dealers sold 65,963 units in 1982.

Daimler-Benz subsidiaries here are organized under the Daimler-Benz of North America Holding Company. This New York City-based operation is just across the East River from Long Island City, where Steinway produced the "American Mercedes" just after turn of the century.

The METALLGESELLSCHAFT AG was incorporated in 1881 as a joint-stock company to carry on a longstanding Frankfurt metal trading business. In the course of the 100 years which have passed since then, Metallgesellschaft continuously expanded its activities by establishing new or acquiring existing plants and by merger with or participation in other companies. Today, the group of companies thus formed presents itself as a widespread organization in the fields of basic materials and capital goods as well as engineering and construction.

Metallgesellschaft belongs to the important enterprises of the West German industry; with a consolidated turnover of about DM 10 billion it occupies roughly 26th place. The MG Group with almost 26,000 employees worldwide engages in the exploitation and benefication of ores and industrial minerals for supply to its

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own smelters or chemical plants. Part of the metals produced as well as metals from other sources are processed into semi-finished and finished products in works of the Group. Together with the metal processing goes the manufacture of plastic goods by similar technologies. Metallic components of ores and their sulphur content form a basis for the production of chemicals, especially sulphuric acid, sulphur dioxide, white pigments, filters, barium, caesium, lithium and sodium compounds.

The trade in raw materials which was originally restricted to metals and ores, now also extends to other commodities: Sulphur, phosphates, fluorspar, alumina, rubber, coal and crude oil. The tasks connected with production, distribution and trading made it advisable to provide integrated transport and insurance services. The financial transactions of MG performed on an international scale are entrusted to its own bank.

The technological know-how, especially in the fields of ore preparation and smelting, chemical production, petroleum processing, upgrading of solid fuel, and environmental controls is offered on a world-wide basis by the Group's engineering companies. This extensive diversification is reflected by the grouping into 16 different Operating Divisions, which are largely independent and responsible for current business. Together with 3 recently formed Trading Divisions and 2 Product Divisions they form 5 Corporate Divisions.

Metallgesellschaft Services Inc., New York, specialists in counter trade and barter, serve a wide variety of corporate and government clients.

Mobay Chemical Corporation

MOBAY CHEMICAL CORPORATION's success in the United States derives largely from the company's ability to be a strong technical partner to American industry and agriculture. This approach to business reflects the philosophy of Mobay's parent company, Bayer AG, that the sophistication of the American market demands high-technology products tailored to this market.

From small beginnings in the 1950's, Mobay has developed into the undisputed leader in polyurethane raw materials and polymers, technology, service and equipment. It is also a leading force in the area of agricultural chemicals, dyestuffs and pigments, thermoplastics and industrial chemicals. Net sales in 1983 are expected to reach $1.3 billion, up from 1.1 billion in 1982. The gains in sales will come from all of the company's divisions.

Mobay's optimistic outlook for future growth is based on the nature of its broad product line. This consists of thousands of chemical raw materials for many of America's industries, including transportation, construction, farming, electrical/electronic, textile, appliance and other consumer goods.

Headquartered in Pittsburgh, PA, Mobay provides jobs for about 6,000 people throughout the United States. The company's seven divisions are: Agricultural Chemicals, Inorganic Chemicals, Organic and Rubber Chemicals, Plastics and Coatings, Polyurethane, Dyes and Pigments, and Fibers. The divisions' principal manufacturing facilities are based in Baltimore, MD; Bayonne, NJ; Baytown, TX; Charleston, SC; Haledon, NJ; Kansas City, MO; New Martinsville, WV; and Newark, OH.

Aside from Mobay, the following companies represent Bayer AG's interests in the United States: Miles Laboratories, Inc.– health care and veterinary products; Agfa-Gavaert, Inc. photochemical and phototechnical products; Compugraphic, Inc.,– hardware and software for computerized typesetting systems; Helena Chemical Co.,– agricultural chemicals distribution; Haarmann & Reimer Corp.– fragrances, flavors and aroma chemicals.

Combined, these companies have sales in excess of $3 billion and employ approximately 25,000 people.

MUNICH FAIRS-INTERNATIONAL

THE MUNICH TRADE FAIR CENTRE benefits from the excellent infrastructural advantages which Bavaria offers. International trade fairs and exhibitions represent qualified markets in the Free State of Bavaria which send out impulses and are, for the branches and economic sectors concerned, an indispensable source of contact.

Bavaria, on the other hand, in its role as partner in the world economy, indubitably profits from the Trade Fair Centre. The position held by the trade fair city of Munich, seen in relation to the trade fair sector at national level, cannot be overlooked.

From 1972 to 1982 the number of firms exhibiting at the Munich Trade Fair Centre rose by 97%, i.e., from approx. 11,000 to 21,640. The number of visitors increased by about 67 % i.e. from approx. 1,000,000 to 1,670,000. The total hall area occupied for exhibition purposes showed an increase of 47%, i.e., from approx. 750,000 sq.m. to 1,101,150 sq.m.

The programme consists of 32 trade fairs and exhibitions in the Federal Republic of Germany. If one includes the activities of the joint concern MESSE MUENCHEN INTERNA-

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DIE FREUNDSCHAFT UNSERER KUNDEN,
DIE BASIS UNSERES STETIGEN ERFOLGES.

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WIR SIND IHRE FRACHTEXPERTEN

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TIONAL at home and abroad it gives a figure of around 180 events for 1982 - comprising the Trade Fair Centre's own international fairs, participation at fairs in the Federal Republic and abroad and marketing campaigns for the German export drive.

This number represents enormous dimensions.

The joint concern MESSE MUENCHEN INTERNATIONAL in its entirety was able to attain in 1982 a turnover of approx. 132 million DM.

Of this 71 million DM fall to the Munich Trade Fair Corporation (Muenchener Messe - und Ausstellungsgesellschaft GmbH - MMG), around 15 millions to the MODE-WOCHE-MUENCHEN GmbH, around 30 millions to the International Trade Fair and Exhibition Service (Internationaler Messe-und Ausstellungsdienst GmbH - IMAG) and some 16 millions to the Handicrafts and Light Industries Exhibitions and Trade Fairs Company (Gesellschaft fuer Handwerksausstellungen und -messen GmbH - GHM).

These figures speak for themselves. Behind them is a concept which guarantees success.

The location is Munich. Geographically-speaking the city is ideally-situated, orientated especially towards south and south-east Europe. It has the excellent infrastructure, advantages and atmosphere unmatched by any other German city.

The trade fair grounds - expression of an almost 80-year old history - experienced recently the greatest qualitative jump forward since coming into existence with the opening of the extension in its southern half.

In Munich it is no longer a question of expansion but rather one of consolidation.

It is the fortunate combination of Trade Fair Centre-Munich with its motivation potential- and trade fair policy which produces success: Advantages of location, the infrastructure of the Trade Fair Centre and the trade task at hand. With a harmonious combination of place, trade fair policy and management the Munich Trade Fair concept becomes effective and – as in every undertaking – one needs a little luck.

NIXDORF®
COMPUTER

NIXDORF develops, manufactures and markets computer systems and peripherals for data and information processing. The company is one of the leading manufacturers in the international computer industry.

The Nixdorf sales and service network covers 33 countries with the emphasis on Western Europe and the USA. The company is also active in Australia, Japan, Hong Kong, Singapore, Korea, New Zealand, on the Philippine Islands, in Latin America and in Africa.

Nixdorf Computer and peripheral systems are produced on an international job sharing basis. Factories in Germany are located in Paderborn, Berlin and Cologne. Outside Germany, production plants have been established in Ireland (Bray/Dublin), Spain (Toledo), America (North Reading, Mass.) and Singapore. Whereas the plants in Ireland, Spain and Singapore mainly provide individual parts for further processing in Germany, the North Reading plant produces complete systems for the American and other markets.

The Nixdorf development activities are also based on international cooperation. The American development sector has been carefully built up in order to ensure direct access to the internationally most significant technology market.

Nixdorf users are both medium-sized companies and large industrial, commercial and service companies, as well as public administration. These customers are supported by a sales and service organization largely run by Nixdorf itself. In Germany and in some other countries, this network is supplemented by agents for the company. Nixdorf employs approximately 16,000 personnel (31st December 1982), of whom about 9,900 work in Germany.

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Most of the staff are concerned with service functions such as consulting, organization, technical service and trading. These services are available to the user in all phases of computer implementation, offering well-informed, market-oriented support.

The workstation-oriented design of the computer systems and the capacity for branch-related specialization in the sales and service organization are decisive factors in the Nixdorf applications and market concept.

And the success of this concept is reflected in the steadily increasing market shares in Germany and world-wide.

North Texas Commission

THE DALLAS/FORT WORTH METROPLEX is not just one city, but 174. This diversity not only offers varied lifestyles but a strong and growing economy as well. The Metroplex forms a major intersection between four of the largest metropolitan areas on the continent and is the marketing core for manufacturing, wholesale distribution and business services for the surrounding eleven-state region with its population of over 50 million.

Dallas/Fort Worth Airport is both the largest and the fourth busiest airport in the U.S. Over 1200 passenger flights daily serve all U.S. major cities as well as over 30 foreign destinations. DFW's air trade routes make it the only interior crossroads in the U.S. with direct service to Europe, Asia and South America. A new 250-acre Foreign Trade Zone provides an added impetus to the growth of both the Airport and the Metroplex.

The Metroplex is the finance capital of the American South and the finance community is a vital and active part of the business scene. Its banks number 225 with deposits of over 25 billion dollars.

Metroplex employers enjoy many benefits. Its labor force of over 1.5 million (the largest in the American South) is 89% non-union and Texas ranks lowest in the U.S. in average unemployment compensation rates. This, coupled with the fact that there is no corporate or personal income tax, makes the Metroplex a very profitable place in which to do business.

All these advantages plus many more provide an environment in which businesses, both small and large, flourish. Over 1,170 million-dollar companies are located in the Metroplex and this number grows yearly. In addition, 460 foreign-owned firms have been welcomed in recent years.

For further information, contact Worth M. Blake, President, North Texas Commission, P.O. Box 61246, DFW Airport, Texas 75261, U.S.A., (214) 574-4430, telex 73-2561.

More than 600 manufacturing plants chose OKLAHOMA as their location the past ten years. Here is why:

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(2) Oklahoma is located in the center of that tier of warm climate states which are most prosperous and fastest growing in America.

(3) Oklahoma has 37 outstanding technical training schools and five skill centers to train workers for specific jobs in new industries.

(4) Oklahoma offers a transportation system to suit every need – railroad, truck, air and a waterway exit to the sea. Economical transportation is thus available for both national and international shipping.

(5) Land costs are low because Oklahoma is a young, vibrant state of energetic people which is just now being settled by industrialists and manufacturers. This year marks only the 76th year of Oklahoma statehood.

(6) Financial assistance is available through a state agency to support new industries through second mortgage financing of land and buildings, up to 25%.

Come visit Oklahoma – The profitable Place To Be. See the great progress made since Oklahoma was Indian Territory just 76 years ago.

Bache Securities

One of the major events in Wall Street history took place in June of 1981, when THE PRUDENTIAL INSURANCE COMPANY OF AMERICA acquired one of the world's oldest and largest brokerage firms, Bache Halsey Stuart Shields Incorporated with over 100 years of investment experience.

Since 1879, when Bache was founded, the firm has exhibited a forward-looking, innovative spirit which made it a leader in a number of investment areas. It was one of the first firms to make available to its clients mutual funds, commodity futures, spot metals trading, listed options and life insurance, to name but a few. It was also one of the first to establish a formal training program for its Account Executives, to install a private newswire service and to computerize its operations. All of these developments resulted in more comprehensive, more efficient, and more professional service for our clients.

The largest insurance company in the world, The Prudential Insurance Company of America, with assets in excess of 76 billion dollars, brought massive new resources and capabilities to Bache thus marking the beginning of a new era in the investment industry. In late 1982, the name Prudential-Bache Securities was introduced in the United States to reflect the merger of these two distinguished firms.

Directly or through its subsidiaries (locally named "Bache Securities"), Prudential-Bache has over 260 offices throughout the world. The firm employs more than 4,000 Account Executives and over 1,000 other investment professionals actively engaged in providing a wide array of products, including stocks and bonds, commodities, options, mutual funds, annuities, investment banking services and many others. In all, Prudential-Bache offers over 70 products to individuals, institutions, corporations and governments.

Since 1896, the firm has been continuously represented internationally. Outside of the continental United States, Prudential-Bache subsidiaries currently have more than 37 offices in 17 countries including Puerto Rico and the U.S. Virgin Islands. These international offices are staffed by over 500 professionally trained and fully-licensed Account Executives serving the investment needs of Prudential-Bache's international clients.

PREUSSAG

PREUSSAG was founded in Berlin in 1923. The Company, originally purely mining oriented, is today engaged in mining, smelting and trading of metals, in transport, in energy and in construction activities. PREUSSAG AG, parent company of the PREUSSAG Group ranks with a share capital of DM 350 Mil. and approximately 13,000 employees among the top 50 industrial enterprises in West Germany. The sales of the PREUSSAG Group (world) totalled DM 11.2 billion in 1982.

The Metal Division's business does include prospecting, exploring, smelting and processing of non-ferrous and pure metals with a total smelting capacity of 170,000 mt of zinc and 160,000 mt of lead. The London based Amalgamated Metal Corporation PLC (AMC) and its Group Companies are acting in international metal trading and tin smelting besides other activities.

Besides a leasing fleet of about 25,000 rail tank cars and 60 inland waterway ships, 91 supply boats of OSA, providing worldwide services for offshore drilling and production form part of the services of the Transport Division.

Natural exhaustion of domestic oil and gas production deposits led PREUSSAG to international exploration activities partly concentrated on affiliated companies and subsidiaries in the United States as Preussag Oil and Gas -Production Inc., -Exploration Corp., -Research Corp., IOG and PB-KBB Inc. in Houston.

Activities of the Construction Division domestic and abroad are mainly excavation, pipeline and waterworks construction and fire protection equipment.

Price Waterhouse

PRICE WATERHOUSE provides accounting and auditing, tax, management advisory and other professional services to clients throughout the world. These clients range in size from small, growing ventures to large multinational corporations. Approximately 26,000 men and women serve our clients in more than 330 offices in 95 countries and territories, including five offices in Germany.

Founded in 1849, our firm has developed into a worldwide organization, generally through internal growth and not through the acquisition of other firms or through correspondents, agents or as members of a loose alliance. Our strong, multinational organization is uniquely structured to provide professional services responsive to our clients' needs and to the national environments where we practice, with quality control standards uniform throughout the world. As a firm, our professionals in the United States and Germany can look to more than sixty years of experience in serving national and multinational clients. Services to German owned businesses are provided with the assistance of German certified public accountants (Wirtschaftspruefer) resident in the United States.

Accounting and auditing – Our reputation for auditing is based on many years of successful service to many of the leading companies in the world and has long been recognized in the general business community. Price Waterhouse worldwide provides services to more large multinational companies than any other accounting firm.

Our basic service is the examination of financial statements and providing reports on them. Our audits are based on a thorough understanding of national and international requirements and knowledge of the unique compliance requirements of individual industries.

In addition to examining annual financial statements, we have an established reputation in conducting special financial investigations, acquisition reviews and other engagements where quick response, sound analysis, independence, and integrity are critical.

Tax – To help our clients minimize their tax burdens, Price Waterhouse offers a variety of services, including comprehensive tax planning, preparation of tax returns, assistance with tax audits, requests for rulings, tax planning for acquisitions and mergers, tax planning for executives, and specialized tax services for expatriates and nonresident aliens. In addition, we have developed computer-based systems that calculate foreign source taxable income, foreign tax credits, earnings and profits, and earnings repatriation.

We prepare a series of guides that provide comprehensive information on accounting and tax regulations, investment climate, and other business issues in individual countries. Of special interest to German/U.S. businesses are the information guides on *Doing Business in Germany, Doing Business in the United States, U.S. Acquisitions, U.S. Citizens Abroad, Foreign Nationals in the U.S.*, and *Doing Business in the European Communities*.

Management advisory services – Price Waterhouse provides practical advice on all facets of business operations, including financial management, information processing, EDP and inventory control systems, and office productivity. Our management consultants help businesses define their goals and develop and implement the strategies, organizational structures, and information systems necessary to achieve them.

Rodenstock

The RODENSTOCK GROUP, with headquarters in Munich, is one of the world leaders in ophthalmic optics. The family-owned company entered its second century of operations in 1977 under the management of Professor Dr. Rodenstock, currently the president of the Federation of German Industries (BDI).

In addition to three plants and eleven branches in Germany with over 6,000 employees, there are three German and eleven foreign subsidiaries with several manufacturing facilities.

Rodenstock products cover a wide range: ophthalmic lenses, a comprehensive line of plastic and metal frames and sunglasses, precision optics for commercial, industrial and scientific applications including photographic, enlarging, reproduction and X-ray objectives as well as a complete line of ophthalmological refracting and diagnostic instruments and automatic processing equipment for opticians.

In the United States the Group maintains the following operations:

Rodenstock USA, Inc., Danbury, CT

Rodenstock Corporation, Yauco, PR

Rodenstock Precision Optics, Morton Grove, IL

Refracting and diagnostic instruments produced in Germany and the WECO instrument line are represented in the United States by Coburn Optical Industries.

Steady growth and expansion have marked Rodenstock's engagement in the United States in recent years.

THE SCHENKER STORY. The story of the Schenker enterprise is the story of an ingenious package of ideas. The grouping of goods for shipment in consolidated lots for the purpose of achieving lower freight rates, the idea of keeping under control the entire range of services necessary to be performed when offering the customer a true door-to-door movement even beyond national borders. The man who put this idea into practice was Gottfried Schenker (1842-1901). Thus, he became one of the pioneers in the history of modern transportation. On July 1, 1872 he founded, together with other investors, the enterprise Schenker & Co.

Today, on five continents in more than 100 countries and at some 350 places worldwide, the experts of Schenker are at your disposal. 17,000 specialists think, plan and work for you. More than 100 airfreight centers and air terminals make Schenker one of the biggest forwarders in the world. There are Schenker maritime offices in more than 100 of the most important seaports worldwide. The organization has available more than 3,000 vehicles ranging from light trucks to special tractors for heavy loads, a combined storage in excess of 5.5 million square feet and last but not least a staff of experts for the shipment of plants, animals and valuables.

Today Schenkers International, a fully owned subsidiary of The Schenker Group of Companies, is the largest foreign freight forwarder in the U.S., with offices in Atlanta, Baltimore, Boston, Charlotte, Charleston, Chicago, Columbus, Dallas, Denver, Detroit, Hartford, Houston, Jacksonville, Los Angeles, Miami, Milwaukee, Minneapolis, New Orleans, New York, Norfolk, Philadelphia, Phoenix, Richmond, Salt Lake City, San Francisco, Savannah and St. Louis.

SCHOTT

Commencing operations in 1969, SCHOTT GLASS TECHNOLOGIES, INC., Duryea, Pennsylvania has grown to be the United States' foremost manufacturer of scientific optical glass. With the exception of its parent, Schott Glaswerke, the firm offers the world's most comprehensive variety of optical glasses.

Since the founding in 1884 of the original Janer Glaswerk Schott & Genossen, the Schott name has been synonomous with quality and innovation in glass. Schott Glass Technologies Inc. not only follows in this tradition, but has developed many new glass types for special applications within the Western Hemisphere. This is exemplified by the recent completion of Schott's latest expansion – one of the most modern glass research and development laboratories. Schott is now conducting research for Western Hemisphere customers right here in the United States on a much broader basis.

Schott Glass Technologies Inc. manufactures precision glass products for a multitude of scientific applications. The industries served can be broadly described as ophthalmic, scientific optical, as well as numerous highly specialized markets.

Among the ophthalmic products manufactured by the firm are spectacle lens blanks made of traditional white and colored glasses, as well as photochromics, safety, and special purpose glasses. The firm was awarded the Industrial Research IR-100 Award for developing High-Lite® , a special glass which allows high prescription spectacle lenses to be made with greatly reduced thickness. Schott has recently expanded its ophthalmic line with the introduction of SunMagic® , a photochromic sunglass lens that will be featured in the world's most fashionable sunglasses.

The mainstays of the precision optical product line include over 400 types of glasses to satisfy the needs of optical instrument makers in the Western Hemisphere. Augmenting these glasses are specialty products, such as highly sophisticated laser glasses, radiation shielding glass, scientific color filter glass, glasses for fiber optics applications, and glasses for CRT's and other displays. Many new developments are for specialty applications in the military and industrial fields.

Schott officers are Franz E. Herkt, President; Henning Fuhrmann, Vice President of Operations; and John G. Gulbin, Vice President of Finance.

SIEMENS

The fiscal year 1982-83 which ended on September 30, was the first for the SIEMENS companies in the United States as a group of decentralized organizations. Their rapid growth, an important factor in Siemens' decision to decentralize, continued in virtually every phase of their efforts in the medical, power engineering, communications and electronic components industries. For the second straight year, it was anticipated their combined sales volume would exceed $1 billion.

The largest entities among the Siemens companies in the United States are Siemens-Allis, Inc., Atlanta, GA and Siemens Medical Systems, Inc., Iselin, New Jersey. Both are diversified within their spheres of specialization with the product spectrum of Siemens-Allis ranging from large turbine generators and light rail vehicles for mass transportation, through motor controls, switchgear and energy efficient motors of various sizes. Siemens Medical Systems, one of the major U.S. companies in its industry, manufactures a range of products covering diagnostics, patient monitoring, operating room systems, dentistry, and hearing aids.

In recent years, Siemens Communication Systems, Inc., Iselin, New Jersey, has become one of the nation's largest manufacturers of

We sell, export, rebuild, distribute, import, supply, maintain, lease, ship . . . worldwide.

Stinnes is an established distribution, trading and industrial services company with the financial and organizational resources to serve a broad spectrum of industry on a worldwide basis.

Products

Capital equipment — sale or lease of used, rebuilt and modernized machine tools, diesel engines and locomotives and special purpose mining vehicles.

Industrial materials — steel products, minerals and alloys, coal, coke, liquid fuels, petrochemicals, tooling components and mill supplies.

Services

Industrial — rebuilding of diesel locomotives and components, marine and large stationary diesels and pumping equipment, contract rebuilding and retrofitting of machine tools and coating and plating of high value components.

Shipping — freight forwarding and brokerage, including ship chartering, from every port in the U.S., door-to-door service, insurance and documentation.

STINNES

STINNES CORPORATION

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private branch exchanges (PBX's) used in offices and other commercial establishments for handling telephone communications. Siemens Communication Systems also provides switching systems for data communications and mobile radio systems.

In the electronic components area, Siemens Components, Inc., Iselin, NJ, markets high technology transistors, microprocessors, optoelectronic products, lasers, ferrites, etc.

Serving these companies in such areas as finance, legal, research, advertising and public relations are Siemens Research and Support, Inc., Iselin, NJ; and Siemens Capital Corporation, New York City.

In addition to these companies, Siemens also is represented in the United States by OSRAM, Inc., Newburgh, NY in the field of commercial and industrial lighting, by HCM Graphic Systems, Inc., Hauppauge, NY, in the field of graphics and by two joint venture companies, General Numeric Corporation, Elk Grove Village, IL, in the field of numerical controls for machine tools and Siecor Corporation, Hickory, NC, a manufacturer and marketer of communications cable and fiber optics communications products.

In all, the Siemens companies in the United States employ more than 13,000 people in more than 200 locations.

STINNES

STINNES CORPORATION of New York, with sales in the U.S. of more than $2 billion, is continuing its rapid growth by providing a wide range of key products and services to American industry. The company's financial resources, together with its flexibility, service orientation and international scope, have enabled it to become an important contributor to the U.S. economy, with 1,500 employees in 15 plants and numerous regional offices throughout the country.

Stinnes is a major rebuilder and reconditioner of diesel locomotives, large marine and stationary diesel engines, gear boxes and reciprocating pumping and compressing equipment such as that used in natural gas transmission. Stinnes also plays an important role in the world market for used machine tools, including the purchase of excess equipment, plant liquidations and rebuilding of machine tools.

Distribution through a network of more than 1,200 distributors is a rapidly growing service offered by Stinnes. The company acts as a manufacturer's representative and or master distributor for a wide range of industrial products and supplies including special purpose vehicles, tooling components, machine tools and other metal-working equipment and mill supplies.

Stinnes' mine equipment division, which was formed in 1889 and has become an important part of the organization, presently operates plants and warehouses in the East, Midwest and Western United States. Equipment fabricated by this division includes diesel and battery-powered personnel carriers and special purpose vehicles. In addition, the division distributes and services equipment for coal and ore mining.

Stinnes' trading operations involve refined petroleum products, petrochemicals, fine chemicals, steam and metallurgical coal, minerals, ferro-alloys, steel and cement. As a trading company, Stinnes acts as export/import manager, handling all aspects of international trade for producers who wish to participate in global markets without the associated complexities and risks.

Stinnes Corporation is wholly owned by Stinnes AG which, in turn, is a subsidiary of VEBA AG, the largest public company in West Germany.

Stinnes AG, with annual sales of more than $8 billion, owns or holds an interest in more than 250 companies, together employing more than 22,000 persons.

VEBA AG, with annual sales in 1981 of over $20 billion, ranks just ahead of the 10th largest U.S. industrial corporation.

THYSSEN

THYSSEN INC., a wholly owned subsidiary and member of the West German Thyssen Group, is a holding company for Thyssen interests in U.S. and international trading and has its headquarters in New York City.

The steel products of the Thyssen mills as well as industrial products of various Thyssen enterprises have been sold in the U.S. for many years. As the demand for these products increased, it became necessary for the Thyssen Group to establish a company to facilitate communications, order entries, and more complete penetration between Thyssen and its customers.

Thyssen Inc. was founded in mid-1959. Since its formation, Thyssen Inc. has continually expanded its U.S. and international operations by adding various new lines of activities to the original business of importing steel. As a result, Thyssen Inc.'s organizational set-up was restructured in the beginning of 1981 with the formation of two subsidiaries, Thyssen Steel Co. and Thyssen Carbometal Co. TRT (Thyssen Rheinstahl Technik) and Thyssen Mining Equipment continue to sell and distribute forgings, castings and other industrial products as well as mining equipment, operating as divisions of Thyssen Inc.

Thyssen Steel Co. expanded its direct domestic sales representation with offices in Houston and Los Angeles and with the formation of divisions and/or subsidiaries to handle and establish various additional lines of business.

In the 1970's, Thyssen Steel Co. entered the domestic market of steel warehousing with the establishment of Thyssen Metal Service/Southwest and later on with Thyssen Metal Service/Southeast, Thyssen Metal Service/West Coast and Thyssen Steel Detroit Co. These steel service centers and distributors supply the Southwest, Southeast, Northeast, the Midwest and Great Lakes areas and the West Coast respectively with rolled steel products.

At the same time, Thyssen Carbometal Co. established a worldwide business in raw materials, mainly coal and iron ore, steel scrap and secondaries, semi-finished steel as well as fertilizers and industrial chemicals.

Today, the combined operations of Thyssen Inc. employ almost 300 people in various parts of the country. The company's activities include international steel and raw material trading, warehousing and steel service center operations in the U.S., as well as sales of industrial products and mining equipment.

With such dynamic growth, Thyssen Inc. has become a major factor in the domestic steel community and in international trading.

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WE FLY IT
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AIR-DIVISION

TRANSATLAS AIR-DIVISION, headmember company of the vital INTERNATIONAL TRANSATLAS-GROUP of 150 registered and nominated member-companies worldwide, is the solution for your airfreight-export-import affairs, wherever on the globe.

Transatlas Air-Division with offices in Frankfurt M-Kelsterbach and JFK-New York, Jamaica has rapidly grown to an international airfreight forwarding organization. Founded in 1969 by Mr. W.J. Korbach and O. Czeschka,

both are 50% owner and President in Stuttgart, 52% owner in Frankfurt/M-Kelsterbach and 55% owner in JFK-Jamaica. Managing partners in Frankfurt/M, with each 24% of the shares are Dr. D.W. Bloch and W.M. Sprunk. President and partner in New York is Mrs. N. Meyer, with 15% of the shares in New York. Vice-President is Mr. Bill Meyer.

Transatlas Air-Division, Stuttgart, started the International Transatlas Group by selecting worldwide the most active, specialized, independent airfreight-forwarders, most of them acting as air-consolidators, customs house brokers and trucking companies.

Statutes were worked out, that each applicant or selected company had to accept and to sign, in reference to terms of handling, service and financial procedures, in order to become a member of the International Transatlas Group.

This was done to ensure utmost reliability, the guarantee of first class service and financial safety of applicants, and the acceptance and confirmation of such new member-companies to cooperate with the group-members, worldwide.

The goal of the group is and was the cooperation between all group-members. The intention is to install new consolidated services with other group-members and/or to bring in existing consolidations and the development of such, with the receiving group-member.

The competitive import/export airfreight product, sold worldwide, by the International Transatlas Group, has led to the expansion of routes and specialized services within the group and our customers found that we offer a competitive product around the globe whether import or export is concerned. The trademark of the group therefore reads: "for more quality in international airtransport and for better and more efficient services by the members of the International Transatlas Group."

Our offices are well equipped to handle all kinds of airfreight, export and import, brokerage, insurance and charter services.

We offer the lowest rates available and almost daily departures in our independently scheduled consolidations worldwide – on IATA and non-IATA air-carriers. Our consolidations are telex controlled by the departure and arrival station with reconfirmed delivery details, by our international network of the members of the International Transatlas Group.

The name Transatlas Air-Division stands for German quality in international air transport. We live up to our slogan: "The confidence of those we serve, is the foundation of our progress." Please try us – you will like our services. We like to be of service to you!

UNION-TRANSPORT GmbH, with its headquarters in Duesseldorf, West Germany, was established in 1926.

From its beginnings, Union-Transport GmbH has grown into a full-fledged transportation organization with approximately 2,000 employees, providing all phases of the freight forwarding industry.

In 1959, Union Air Transport GmbH, an affiliate of Union-Transport, became the first German transport agency to set up its own air freight offices in the United States of America, with headquarters in New York.

Since its inception, Union Air Transport, under the guidance of Hans Haefner, Vice President and General Manager, has rapidly expanded and now has facilities throughout North and South America as well as the United Kingdom, with annual sales in excess of 50 million US dollars.

Through a vast network of international transport agents, Union Air Transport has the capability to arrange for the movement of freight from and to virtually any point in the free world.

Adding further to the company's growth and success, Union Air Transport also operates as a licensed Custom House Broker.

VAW aluminum

V.A.W. of America, Inc. has been operating in Ellenville, New York since October 1965. The company, wholly owned by Vereinigte Aluminum-Werke AG-Bonn, is a major producer of aluminum billet and semi-fabricated products. The V.A.W. Ellenville plant consists of an aluminum casting operation for the production of over 100 million pounds of billets in various sizes and different alloys. This constituted the basis for construction of the firm's extrusion presses and its tube drawing and rigid conduit production facilities.

Since 1979 V.A.W. has been operating a second plant in the United States, located in St. Augustine, Florida. This plant produces the same range of extruded and drawn aluminum products and is equipped with the most advanced electro-static paint line, enabling V.A.W. to supply coated aluminum extrusions and tubing.

In the area of aluminum extrusions, V.A.W. operates six large presses covering the entire range of shapes from small, light-weight profiles for the building market, to heavy and complex configurations in various aluminum alloys for the construction, transportation and electrical industries. A major specialty in extrusions has been the development of close tolerance tubing and pipe, used for example in lighting standards and sailboat masts. Through years of technical development, V.A.W. expertise in these areas has led to major breakthroughs for the fabricating industry.

Another major product line is drawn aluminum tubing. The availability of advanced equipment (such as cable hydraulic draw benches), combined with technical leadership in the area of tube drawing, has enabled V.A.W. to become a major supplier of tube for consumer durable products and, in particular, outdoor lawn and garden furnishings and other specialty markets.

Over the years, V.A.W. of America has achieved a position as a leading supplier of rigid aluminum conduits for the electrical industry, and distributes aluminum conduits through a network of warehouses throughout the United States.

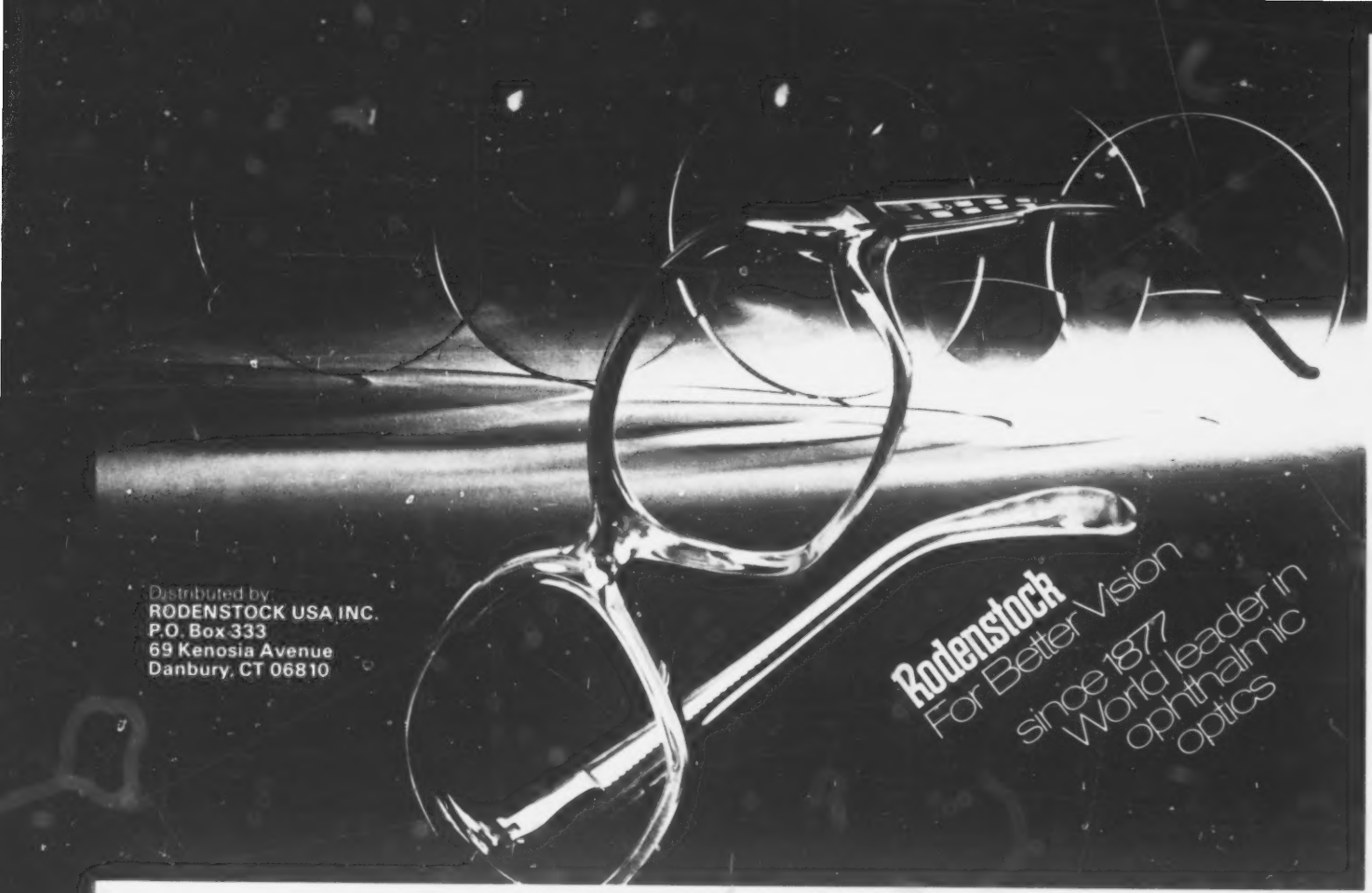
The V.A.W. operations are backed by a complete R & D and testing laboratory. The laboratory utilizes diverse testing equipment, including ultra-modern electro-spectrographic analyzing machinery.

V.A.W. plans to apply its knowledge and expertise through the years to ensure its continued position as a major supplier of extrusions and tubing to the growing aluminum market in the United States.

VEREINS- UND WESTBANK is a large regional bank, domiciled in the north of Germany, with its head office in Hamburg, and represented by more than 260 branches in the constituent States of Hamburg, Schleswig-Holstein and Lower Saxony of the Federal Republic of Germany.

Vereins- und Westbank is organized as a private banking corporation and engages in all areas of modern banking; its character is that of a universal bank with traditional centers of gravity.

In the area of loans and credits the bank offers the wide range of accommodation. Further major emphasis in the business structure



lies in the area of securities transactions: The bank administers, manages, buys and sells, on behalf of its customers, portfolios of shares of stock and fixed interest bearing securities.

Foreign business has always been a sturdy pillar of its business, growing even stronger with every day. The bank provides practically all services. A multitude of intensive globe-encircling contacts with corresponding banks apart, the foreign activities are supported by its subsidiary, VEREINS- UND WESTBANK Internationale S.A. in Luxembourg, which now provides access to the increasingly important area of financial activities known as Euro-business.

In New York the bank maintains a representation for the observation of the market to provide information to its customers, to establish contacts and to offer consultancy services. An agency is due to be opened in Miami in autumn 1983.

The VEREINS- UND WESTBANK is developing the Latin American market by way of its subsidiary company Banco Promotor del Comercio Latino-americano S.A., which provides individual and comprehensive advice on all questions concerning the financing and execution of export transactions. In Buenos Aires and Santiago de Chile the bank has its own representatives.

VILLEROY & BOCH

Originally founded as Ceramar Incorporated in 1969, the operation was converted into a wholly owned V&B subsidiary in 1976 under the direction of Carlo H. Piccoli. V&B Tableware is charged with the marketing of all V&B branded dinnerware, giftware and collectables, as well as Heinrich porcelain dinnerware, and a growing fine crystal capability most recently augmented by the parent company's acquisition of Josephinehütte glassworks.

V&B products can be seen in showrooms in Atlanta, Boston, Chicago, Dallas, Denver, Los Angeles, Seattle, and the organization's 41 Madison Avenue location in New York. In all, 12 sales organizations market V&B products in America, with a field force of over 50.

Since its entry into the American marketplace, VILLEROY & BOCH has registered a remarkable and steady sales growth. The hallmark of its products is the creation of designs and patterns which transcend style trends or fashion fads and which are expanded upon with the addition of serving pieces, cookware, bakeware, and accessories. Additionally, the company has established a Hotel and Restaurant Division to help it gain a greater share of that lucrative market. Villeroy & Boch, in fact, sets the tables of some very prestigious institutions, including several Sheraton hotels across the country, La Cote Basque restaurants in New York, Spago in Los Angeles, and Le Francais near Chicago.

Villeroy & Boch has intensified its marketing efforts in the U.S. and undertaken a more aggressive communications program which encompasses both advertising and public relations. It has made great strides in a short amount of time and continues to increase its prominence within the market.

VOITH

THE VOITH GROUP is an enterprise in the capital goods industry with worldwide marketing offices and production facilities in Germany, Austria, Belgium, Spain, the U.S.A. and Brazil. The Group has a total of more than 13,000 employees. The enterprise has until today been family owned.

The headquarters, J.M. Voith GmbH, Heidenheim, was founded in 1867 and today employs approximately 5,500 persons. The manufacturing range consists of plant and

machinery for the manufacture of fibrous stock and the production of paper, water turbines and pumps, marine propulsion systems, power transmission and aerodynamic components and industrial manufacture.

The first water turbine was shipped from the Heidenheim works in 1870. Other milestones in the history of the Voith Turbine Division are the 8800-kW machines of 1912 for power generation at Niagara Falls and the hydraulic equipment (unit output 740,000 kW) for Itaipu, the world's largest hydroelectric power station in Brazil. Over 17,000 turbines have so far been delivered worldwide.

Voith is one of the largest and most important paper machine manufacturers; the 1,000th Voith paper machine, an over 8 meter wide newsprint machine, went into operation at the Newberg mill of Publishers Paper Company, U.S.A. in autumn 1980.

The world's widest fine paper machine, 9.45 meter wire width, is now undergoing construction at Voith under the serial number 1050 for the new Eastover plant of Union Camp Corp., Franklin, Virginia, U.S.A.

Voith has already been represented in the U.S.A. for paper machinery and stock preparation equipment in Appleton, Wisconsin with the associated companies of Voith Inc., and Voith-Morden, Inc.

In the field of marine propulsion systems, Voith has supplied the drive system for the world's largest ferry driven by Voith-Schneider propellers; it offers service for 6,000 commuters between Manhattan and Staten Island, in New York City. Our marketing firm, Voith Schneider America Inc., is responsible for the Voith product range of marine propulsion systems in Great Neck, N.Y.

Together with Voith Transmissions, Inc. in Allendale, New Jersey, with branch offices in San Francisco and Houston for concentration in the market area of power transmission engineering and Voith Hydro, Inc. for the area of water turbines and pump construction, all of the Voith product lines are represented in the U.S. market.

VOLKSWAGEN OF AMERICA INC. was formed in October 1955 as a wholly-owned subsidiary of Volkswagenwerk AG, Wolfsburg, West Germany. Originally established as the official importer of Volkswagens to the United States VWoA has also served as the official importer of Porsche sports cars and Audi models since the establishment of its Porsche Audi Division in 1969.

VWoA corporate headquarters is located in Warren, Michigan. Marketing of cars imported and manufactured by VWoA is through offices in Englewood Cliffs, New Jersey, and distributing companies which serve two separate dealer networks – one authorized to sell and service VWs and the other handling Porsche and Audi vehicles.

Manufacturing divisions within VWoA include an assembly plant in Westmoreland County, Pennsylvania, a sheet metal stamping plant in South Charleston, West Virginia and an air conditioning and automotive component plant in Fort Worth, Texas. VWoA has another production facility in Sterling Heights, Michigan, which is being enlarged and renovated for future production.

Volkswagen of America also established separate financial subsidiary companies in 1981 to provide automotive financing support for its VW and Porsche Audi dealers. The subsidiaries are VW Financial Corporation, which provides required financial funding, and VW Credit, Inc., which, in agreement with Chrysler Financial Corporation, implements a program of dealer wholesale financing as well as customer retail lease financing.

Under the direction of Noel Phillips, President and Chief Executive Officer, VWoA is also responsible for developing national sales programs, preparing and distributing technical and sales literature, developing and supervising

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With 280 branches in 68 countries, Klockner-Moeller offers one of the broadest lines of equipment in the low-voltage field, ranging from electronic programmable controllers to huge installation of Motor Control Centers and Main Distribution Boards. Acknowledged expertise acquired in over 80 years of experience allows the design and manufacture of complete systems to *actual* customer needs. In industry, commerce, and government.

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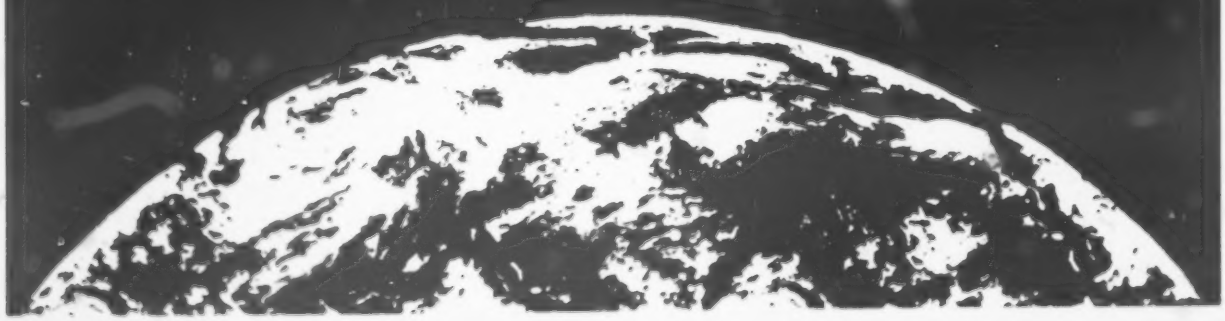

training programs for service mechanics, maintaining inventory control over replacement parts, producing and placing national advertisement, administering insurance programs and conducting many other activities to ensure the continued success of Volkswagen, Porsche and Audi in the U.S. market.

WACKER

Founded in 1914 by Dr. A[illegible]nder Wacker, WACKER-CHEMIE GmbH, Munich, with sales of nearly DM 2.0 billion, ranks today among the 100 largest industrial companies in the Federal Republic of Germany.

Operations began with the first synthetic production of acetaldehyde, acetic acid and acetone on an industrial scale. Pursuing its production and market opportunities, the company expanded its business during the past decades with the addition of plants and subsidiaries in Germany and abroad. Partners throughout the world were licensed. We invented polyvinylalcohol, the polymerisation of polyvinyl chloride in suspension, and the production of acetaldehyde through direct oxidation of ethylene.

Today Wacker-Chemie is one of the leading enterprises in the German chemical industry. The commodity plastics and polyvinyl chloride produced in large plants in the Burghausen and Cologne works in Germany, form the basis for its large scale operations. With the development of special grades, the company succeeded in securing sales at a high volume that is the prerequisite for efficient production.

Polyvinyl acetate, used for many different applications, is one of the important product groups. Copolymers and terpolymers containing ethylene are pioneering new applications in this sector.

Chlorinated solvents are part of the traditional business of Wacker-Chemie. They are used in many variations for surface treatment.

In 1948, Wacker-Chemie began to produce silicone and silanes. They are offered today in a wide variety of types and represent one of the principal pillars of the sales program. It is supplemented by highly dispersed silicic acid and by silicon carbide.

Our subsidiary Wacker-Chemitronic Gesellschaft fuer Elektronik-Grundstoffe GmbH is one of the world's leading producers of pure silicon. In the product's largest market, the United States, it is produced in the Portland, Oregon plant of Wacker Siltronic Corporation.

Wacker-Chemie pays particular attention to the development of new product applications in keeping with the needs and wishes of the processing industries.

Ward Howell International

1982 was a relatively slow year for Executive Search in North and South America, while Europe remained strong. Even French industry continued to recruit talented executives. By early 1983 business picked up nicely and The WARD HOWELL INTERNATIONAL GROUP expects a record year – in fact it should exceed 1982 by 30%.

The emphasis in recruitment is for marketing executives, financial controllers and, production executives skilled in modern automation systems. The electronics companies are seeking executives in all disciplines but are especially interested in marketing and manufacturing people. The financial services businesses: insurance, banking, and real estate are aggressively looking for all manner of senior staff. Client companies are hiring people, primarily at the $75,000 to $120,000 level in industry, while the financial institutions range somewhat higher on the average with quite a few searches at the $200,000 to $300,000 level.

Our European clients, primarily German companies, are again entering the US market, while the strength of the US dollar is causing more US firms to look at European expansion or acquisition opportunities. To meet these needs we have opened offices in Zurich and Milan, in addition to the existing 16 offices around the world.

International Investment Bankers

Advisors to German companies
on acquisitions in the United States.

Arnhold and S. Bleichroeder, Inc.

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WestLB

WESTDEUTSCHE LANDESBANK ranks among the largest banks in the world with a total group business volume of more than DM 176 billion. It was formed in 1969 as a result of a merger of the Rheinische Girozentrale and Provinzialbank, an institute based in Duesseldorf with more than a century of banking experience, with the Landesbank fuer Westfalen Girozentrale, founded in Muenster in 1832.

WestLB is incorporated under public law. Its owners and guarantors are the State of North Rhine-Westphalia, the regional authorities of the Rhineland and of Westphalia-Lippe, and the associations of the regional Sparkassen in those two areas. WestLB is both clearing and partner bank to the 163 Sparkassen of North Rhine-Westphalia, whose assets total DM 168 billion. As part of its cooperative working relationship with the Sparkassen WestLB also handles the foreign business of their clients. In addition, WestLB acts as a state and municipal bank. By virtue of its large portfolio of fixed interest mortgages and the savings contracts of its Building and Loan Association (LSB), WestLB is one of Germany's most significant construction financing banks.

As a universal bank with an emphasis on long-term financing, WestLB is able to provide its private, commercial and public sector clients both in Germany and in foreign countries with a comprehensive range of financings and investment services. In addition to export and import financings, WestLB's range of services for its internationally active clients includes international loan and bond financings in D-mark and Eurocurrencies, as well as financings in local currencies through its branches and affiliates abroad. This network also enables WestLB to meet clients' needs for cover in all currencies and to handle their international payment transactions.

As a major force in the domestic and foreign capital markets, WestLB is in a position to offer investment opportunities in a broad variety of bond issues – in either D-mark or foreign currencies – as well as in shares and mutual funds. The Bank's range of services for investors also includes portfolio management and the launching of special investment funds.

WestLB New York offers a broad spectrum of flexible banking services tailored to the needs of the multi-national firms already doing business in the United States. WestLB's capability to package its financing to suit U.S. market requirements ensures its clients of direct access and immediate fulfilment of demand for both financing and investment services.

The Bank's presence abroad and its participation in internationally operating financial institutions make WestLB a strong partner for all engaged in international business.

WINTER

The Winter Organization in the U.S.A. is represented by ERNST WINTER & SON USA INC., Lynbrook, New York, and a manufacturing facility, Diamond Winter Inc. South Carolina, Travelers Rest, S.C. They actively sell the full line of Winter superabrasive products for the U.S.A. and other American markets. Both companies are wholly owned subsidiaries of Ernst Winter & Sohn Hamburg, W. Germany, a family company founded in 1847 – now the world's third largest producer of superabrasive diamond and CBN tools for industry.

With Diamond Winter Inc., Travelers Rest, S.C. now in full production of diamond PD sawblades for the electronic industry and diamond wheel rollers for the mechanical industry, Winter can offer more rapid delivery and technical service on these important industrial products for our U.S.A. customers.

We offer two sources for Winter products: those manufactured in the main Winter factory in Norderstedt, W. Germany, and now in the U.S.A. With two sources of supply in different parts of the world, the Winter Organization can assure its U.S.A. customers of a continuous reliable supply, plus a wide exchange of technical experiences and information acquired in the two large industrial markets of the Americas and Europe.

Winter USA, Lynbrook, N.Y., maintains large stocks of Winter USA-made products for the electronic industry plus other superabrasive products for the mechanical and stone industries made by Winter factories in W. Germany, Greece and Brazil. As a full-line superabrasive tool manufacturer for the mechanical, electronic and natural stone industry, the Winter USA Organization provides both engineering and commercial assistance to USA customers by both the USA based staff and from engineers and technicians from West Germany.

The Winter team effort in the U.S.A., Ernst Winter USA in Lynbrook, New York and Diamond Winter Inc. S.C. in South Carolina are ready to serve both the end-user market and the many OEM customers in the USA, plus provide backup to European machine tool builders who market their machines with Winter-made superabrasive wheels and tools to USA customers.

OTTO WOLFF (OW)

OTTO WOLFF, headed by the Cologne-based OTTO WOLFF AG, is an international enterprise. The Group operates in a wide field of trade and production, with steel processing and machine and industrial plant installations representing the company's strongest sectors.

One prime center of activity is the production and distribution of tinplate, cold rolled sheet and electrical sheet. Incorporating all the latest functional technology, these materials meet the diverse demands of the packaging, automotive and electrical industries.

Rolling mill products such as profile steel, reinforcing bars and other construction elements, wire mesh, screws, but plastics goods as well, round out the program and show the emphasis laid on supplies in the fields of infrastructure.

Another significant part of the Group's activities involves construction of highly specialized and complex technical apparatus. Whether in precision machines or measuring instruments, drilling rigs, earth-movers or material handling systems, heavy machines or complex industrial equipment, Otto Wolff's predominance in achievement and technology is beyond question.

With a constant eye on the market, ready to adapt Group structure to change, with first rate service and distribution performance and with strong financial power, Otto Wolff is a reliable and trustworthy partner.

International marketing, based on a range of the Group's own overseas subsidiaries and agencies, guarantees rapid adaptation to current market trends.

The United States market has been acquiring growing importance in Otto Wolff's international operations as the continuous expansion of the US-network shows. Today the Group is represented by the Otto Wolff US Holding Corp., Houston/Texas affiliated to which the Otto Wolff America Inc., Chicago, San Francisco and Houston/Texas, cover the key regional areas.

With Hurricane Industries Inc., Houston/Texas, the first production unit in the States joined the Group in 1980. Their diversified program in steel bars, drawn wire, wire rods and mesh and their strong sales organization, are expected to give major impulses to Otto Wolff US business activities.

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Arthur Young's network of more than 80 offices in the United States can be an especially valuable asset to the foreign investor concerning local business conditions, opportunities, government regulations, and relations with businessmen, bankers, government representatives, and other professional advisors. You can contact Arthur Young locally, or call the National Director of International Investor Services in New York. The firm has an excellent guide, "Doing Business in the U.S.A.," which can also be obtained by writing Mr. Morey at the address given above.

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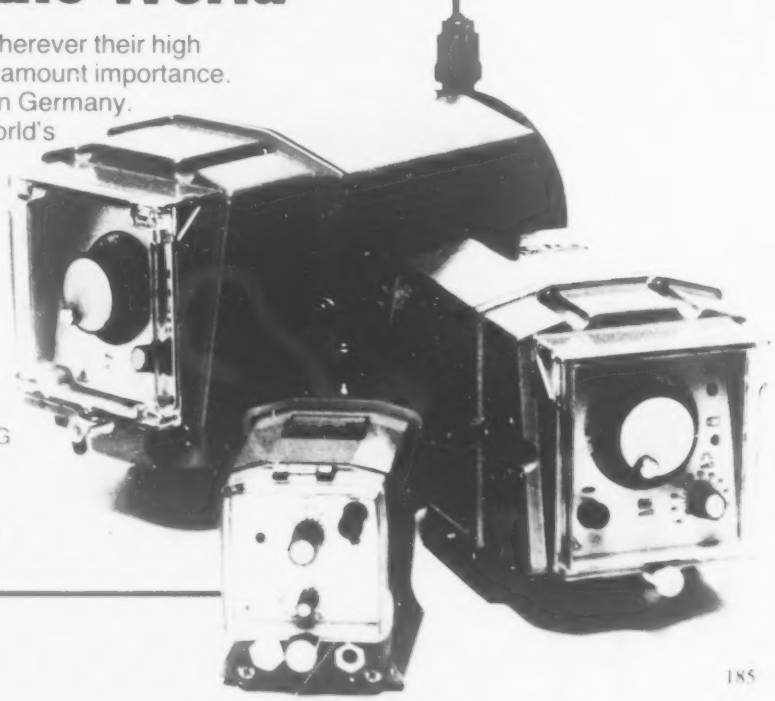

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News for German companies with U.S. operations

Coopers & Lybrand has a special program to help German businesses thrive in America

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- Taxation
- Management consulting
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For further information, contact our two U.S. partners in charge of our special program for German companies:

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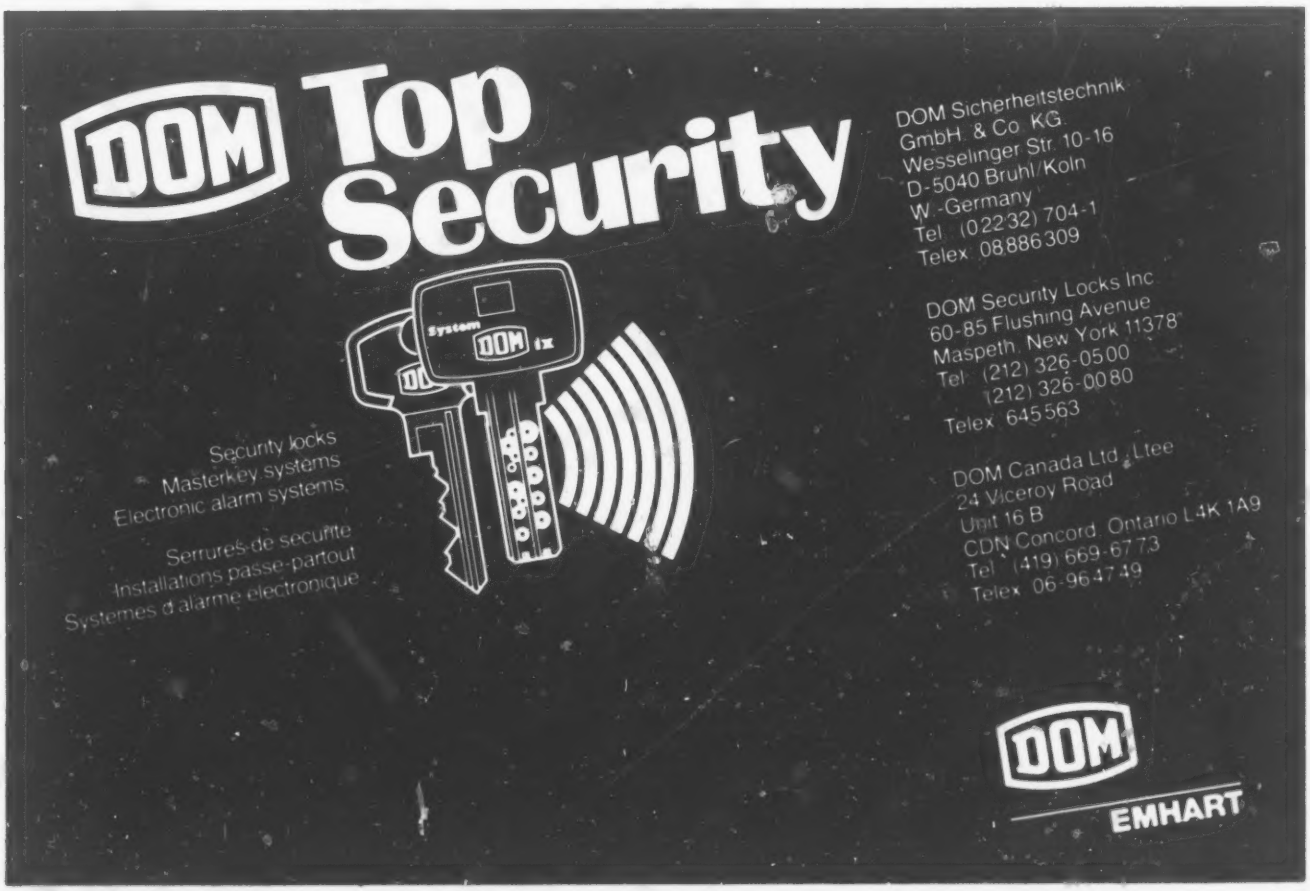

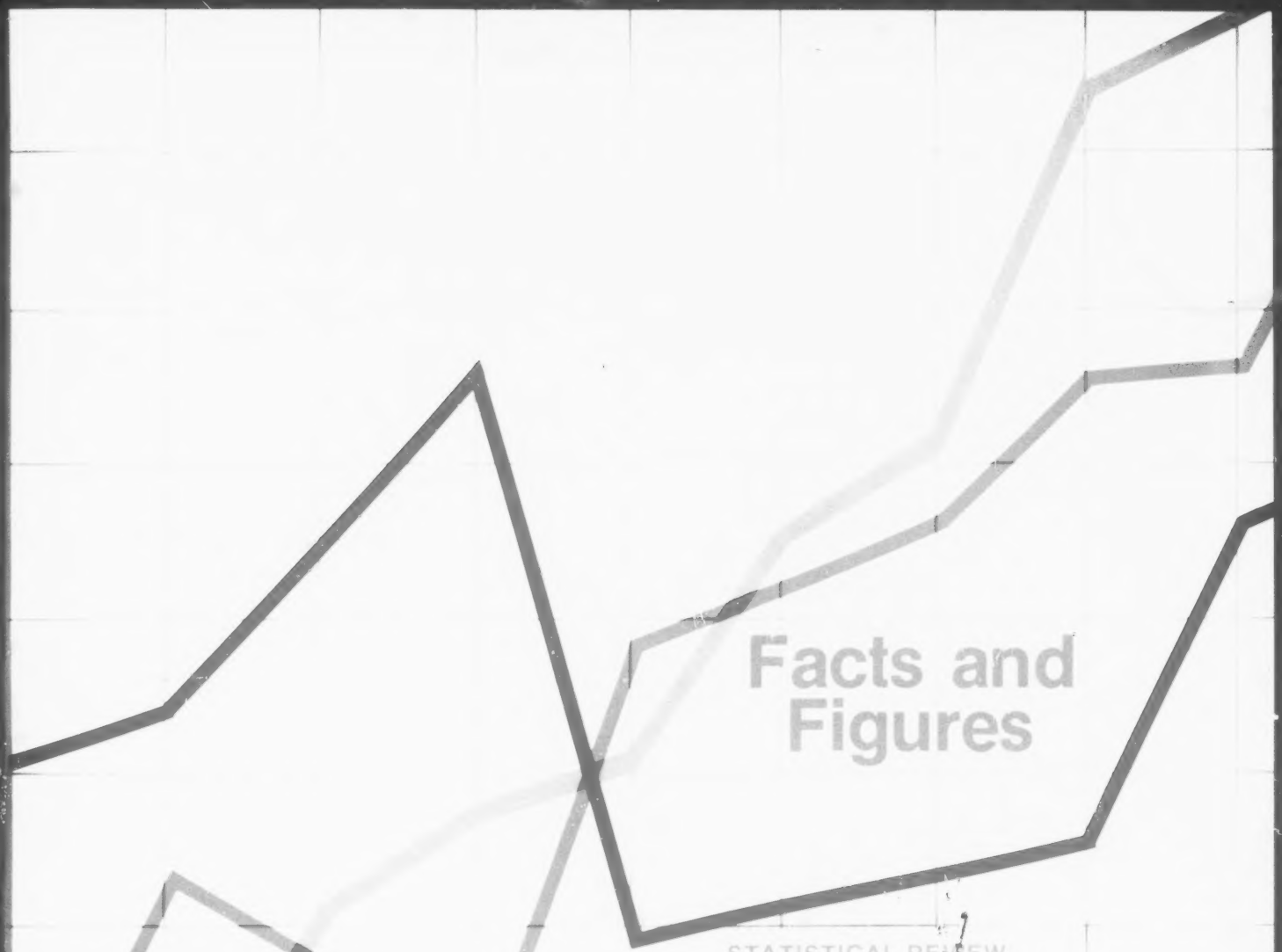

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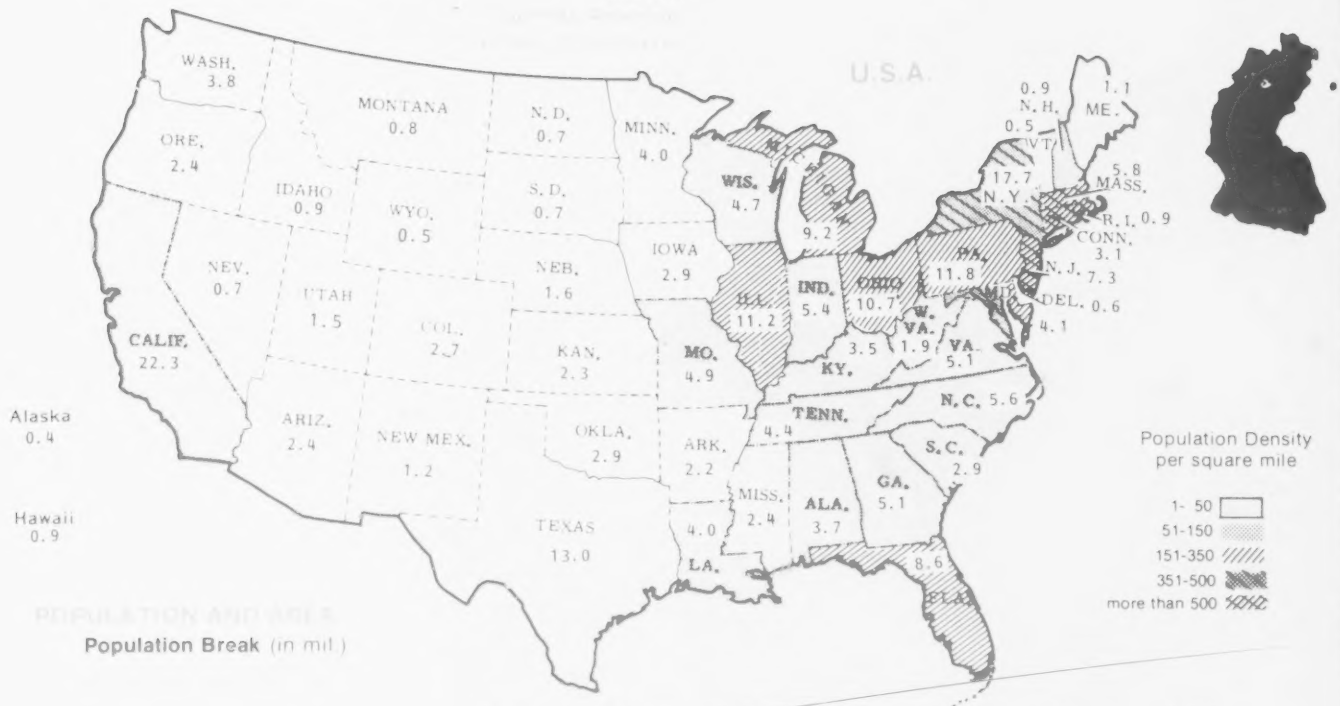

Population Break (in mil.)

	1960	1970	1975	1979	1980	1981	1982
Area (in 1000 sq. miles)							3,618.5
Population (in mil.)	180.7	204.9	218.6	220.6	226.5*	227.9	231.5
—male	89.3	100.3	104.2	107.5	110.0	110.5	113.3
—female	91.4	104.6	109.3	113.1	116.5	117.4	118.2
By age (in %)							
—under 18	35.4	34.2	30.9	28.4	28.2	28.1	27.8
—between 18-65	55.2	56.0	58.8	60.4	60.5	60.7	61.4
—over 65	9.4	9.8	10.3	11.2	11.3	11.2	10.8
Households (in mil.)	58.2	63.4	71.1	77.3	79.1	79.3	79.8

Source: U.S. Department of Commerce **Based on new benchmark levels. Not comparable with previously published data.*

Period	Civilian Labor Force	Total	Manufacturing	Agric.	Gov.	Other	Unemployment Unemployed	Unemployment %
1960	69,628	65,778	16,696	5,458	8,358	35,266	3,852	5.5
1970	82,715	78,627	19,349	3,462	12,561	43,255	4,088	4.9
1972	86,542	81,702	19,090	3,472	13,340	45,800	4,840	5.6
1973	88,714	84,409	20,054	3,452	13,742	47,161	4,304	4.9
1974	91,011	85,936	20,016	3,492	14,285	48,143	5,076	5.6
1975	92,613	84,783	18,347	3,380	14,720	48,336	7,830	8.5
1976	94,773	87,485	18,997	3,297	14,971	50,220	7,288	7.7
1977	97,401	90,546	19,647	3,244	15,079	52,576	6,855	7.0
1978	100,420	94,373	20,332	3,342	15,476	55,223	6,047	6.0
1979	102,908	96,945	21,062	3,297	15,920	56,666	5,963	5.8
1980	104,719	97,270	20,304	3,310	16,248	57,408	7,448	7.1
1981	108,670	100,397	19,676	3,368	15,917	61,436	8,273	7.6
1982	112,383	99,526	18,853	3,401	15,803	61,469	12,036	9.7

Source: U.S. Department of Labor, Council of Economic Advisers

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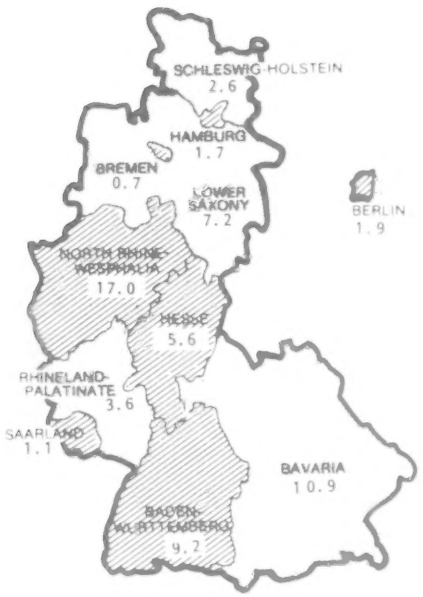
GERMANY



POPULATION AND AREA

Population Break (in mil.)

Population Density
per square mile

351-500

more than 500

POPULATION AND AREA

Population Break (in mil.)

	1960	1970	1975	1979	1980	1981	1982
Area (in 1000 sq. miles)							96.0
Population (in mil.)	55.4	60.7	61.8	61.4	61.7	61.7	61.6
—male	26.0	28.9	29.4	29.3	29.5	29.6	29.5
—female	29.4	31.8	32.3	32.1	32.2	32.2	31.1
By age (in %)							
—under 18	25.3	27.1	25.8	23.6	23.3	22.0	22.4
—between 18-65	63.8	59.7	59.6	60.7	60.8	61.0	62.4
—over 65	10.9	13.2	14.6	15.7	15.9	16.1	15.2
Households (in mil.)	19.3	22.0	23.7	24.5	24.8	25.1	25.3

Source: Statistisches Bundesamt, Germany

LABOR FORCE (in 1000)

Period	Civilian Labor Force	Employment Total	Manufacturing	Agric.	Gov.	Other	Unemployment Unemployed	%
1960	26.518	26.247	12.518	3.623	2.434	7.672	271	1.3
1970	26.817	26.668	13.024	2.262	3.077	8.305	149	0.7
1972	26.901	26.655	12.815	2.038	3.296	8.506	246	1.1
1973	26.985	26.712	12.830	1.954	3.376	8.552	273	1.3
1974	26.797	26.215	12.398	1.882	3.421	8.514	582	2.6
1975	26.397	25.323	11.615	1.823	3.509	8.376	1.074	4.7
1976	26.136	25.088	11.379	1.743	3.505	8.461	1.060	4.6
1977	26.074	25.044	11.330	1.656	3.477	8.581	1.030	4.5
1978	26.223	25.230	11.359	1.608	3.514	8.749	993	4.3
1979	26.449	25.573	11.482	1.558	3.584	8.949	876	3.8
1980	26.684	25.795	11.588	1.518	3.613	9.076	889	3.8
1981	26.927	26.680	11.358	1.495	3.628	9.199	1.271	5.5
1982	26.774	26.774	10.957	1.382	3.634	10.791	1.818	6.8

Source: Statistisches Bundesamt, Germany

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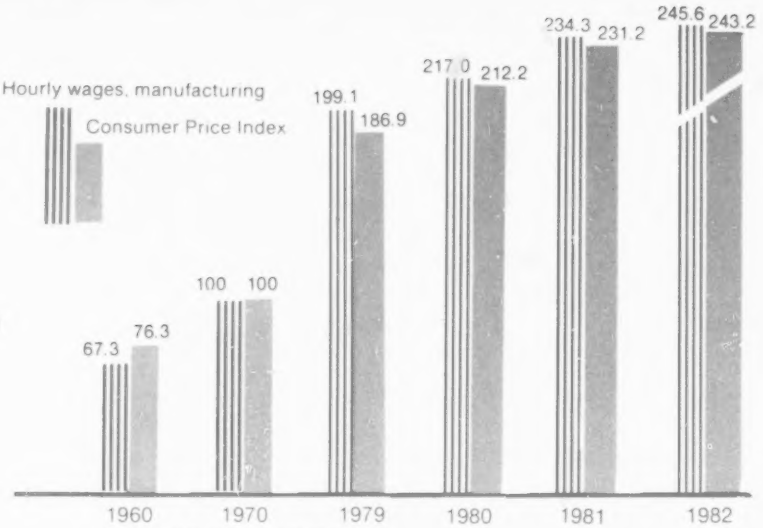
WAGES AND PRICES



Wages and inflation (1970=100)

Source: U.S. Department of Labor

Gross Hourly Earnings (in $)

Period	Manu-facturing	% chg. from year earlier	Primary Metal indus.	Chem.	Mech. engin.	El. engin.	Transp. equip.	Apparel
1960	2.26	+3.2	2.81	2.50	2.55	2.28	2.74	1.59
1970	3.35	+5.1	3.93	3.69	3.77	3.28	4.05	2.39
1976	5.22	+8.1	6.80	5.89	5.76	4.91	6.54	3.41
1977	5.68	+8.8	7.40	6.43	6.25	5.39	7.28	3.62
1978	6.17	+8.6	8.20	7.01	6.77	5.82	7.91	3.94
1979	6.70	+8.6	8.97	7.60	7.32	6.32	8.54	4.23
1980	7.27	+8.5	9.77	8.30	8.00	6.95	9.32	4.57
1981	7.98	+10.5	10.81	9.05	8.81	7.56	10.33	4.99
1982	8.50	+6.4	11.33	9.96	9.29	8.21	11.12	5.20

Source: U.S. Department of Labor

Consumer Price Index (1967=100)

Period	All items	% chg.from year earlier	Housing (Rent)	Food	Util.	Apparel	Transp.	Health care	Enter-tainment
1960	88.7	+ 1.6	91.7	88.0	95.9	89.6	89.6	79.1	-
1970	116.3	+ 5.9	110.1	114.9	107.6	116.1	112.7	120.6	116.7
1976	170.5	+ 5.8	144.7	180.8	182.7	147.6	165.5	184.7	159.8
1977	181.5	+ 6.5	153.5	192.2	202.2	154.2	177.2	202.4	167.7
1978	195.4	+ 7.7	164.0	211.4	216.0	159.6	185.5	219.4	176.2
1979	217.4	+11.3	176.0	234.5	239.3	166.6	212.0	239.7	187.6
1980	246.8	+13.5	191.6	254.6	278.6	178.4	249.7	265.9	205.3
1981	272.4	+10.3	216.5	272.1	335.5	189.4	291.9	312.9	229.7
1982	288.6	+ 5.2	224.0	285.7	350.8	191.8	291.5	328.7	236.7

Source: U.S. Department of Labor

Producer Price Index (1967=100)

Period	All commod.	% chg. from year earlier	Farm products	All ind. commods.	Iron & steel	Chems.	Machs. nonel.	Processed foods
1960	94.9	- 0.1	97.2	95.3	97.1	101.8	-	89.5
1970	110.4	+ 3.7	111.0	110.0	115.1	102.2	-	112.0
1976	183.0	+ 4.6	191.1	182.4	215.8	187.0	185.0	178.0
1977	194.2	+ 6.1	192.5	195.1	230.3	192.7	197.7	186.1
1978	209.3	+ 7.8	212.5	209.4	253.6	198.8	214.3	202.6
1979	235.6	+12.6	241.4	236.5	283.5	222.3	234.2	222.5
1980	268.8	+13.8	249.4	274.5	305.2	260.3	263.0	241.2
1981	293.4	+ 9.9	234.9	304.1	338.8	287.8	263.1	249.7
1982	293.4		248.9	312.3	341.1	292.3	278.8	251.5

Source: U.S. Department of Labor

GERMANY

WAGES AND PRICES

Source: Statistisches Bundesamt, Germany

Wages and inflation (1970=100)

Gross Hourly Earnings (in DM)

Period	Manu-facturing	% chg. from year earlier	Iron & Steel	Chem.	Mech. engin.	El. engin.	Road Motor Vehicles	Apparel
1960	2.69	+10.2	3.30	2.70	2.78	2.42	3.02	1.94
1970	6.09	+13.4	6.83	6.51	6.32	5.48	6.84	4.54
1976	10.49	+ 6.5	11.14	11.32	10.98	9.61	12.02	7.83
1977	11.27	+ 7.4	11.92	12.21	11.83	10.38	12.96	8.40
1978	11.88	+ 5.4	12.47	12.85	12.38	10.89	13.65	8.88
1979	12.55	+ 5.6	13.23	13.42	13.07	11.50	14.29	9.28
1980	13.41	+ 6.9	14.00	14.13	13.97	12.33	15.28	9.86
1981	14.19	+ 6.7	14.62	15.03	14.64	13.01	16.09	10.41
1982	14.89	+ 4.9	15.37	15.85	15.08	13.73	16.94	10.80

Source: Statistisches Bundesamt, Germany

Consumer Price Index (1976=100)

Period	All items	% chg.from year earlier	Housing (Rent)	Food	Util.	Apparel	Transp.	Health care	Enter-tainment
1960	55.2	+1.4	38.9	59.3	42.3	58.3	54.2	45.0	52.6
1970	71.2	+3.3	71.4	73.1	56.7	71.0	66.6	67.5	73.6
1976	100.0	+4.3	100.0	100.0	100.0	100.0	100.0	100.0	1000
1977	103.7	+3.7	103.4	104.9	100.9	104.8	102.1	103.9	101.7
1978	105.5	+2.7	106.4	106.4	103.3	109.4	105.1	108.0	103.4
1979	110.9	+4.1	109.8	108.2	124.8	114.2	110.0	112.6	106.1
1980	117.0	+5.5	115.4	112.7	137.6	120.8	116.8	119.1	108.9
1981	123.9	+5.5	120.4	118.2	157.8	126.8	125.2	126.0	113.0
1982	130.5	+5.3	126.4	121.3	171.0	132.5	130.9	131.7	118.2

Source: Statistisches Bundesamt, Germany

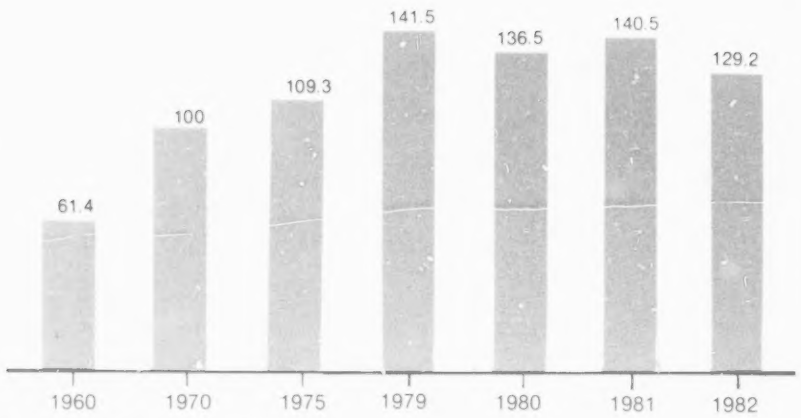
Producer Price Index (1980=100)

Period	All commod.*	% chg. from yr. earlier	Farm products	All ind. commods.	Iron & steel	Chems.	Machs. nonel.	Processed foods
1960	64.8	-	60.5	62.3	73.4	70.5	50.2	69.8
1970	69.3	-	67.1	71.0	72.0	74.9	66.4	75.4
1976	85.4	-	92.9	85.8	97.2	88.0	84.2	91.8
1977	87.7	+2.6	98.2	88.3	93.4	87.1	88.5	91.8
1978	88.7	+1.1	97.4	88.9	93.5	85.7	91.6	97.4
1979	93.0	+4.8	97.7	93.5	96.3	92.8	95.0	97.7
1980	100.0	+7.5	100.0	100.0	100.0	100.0	100.0	100.0
1981	107.8	+7.8	104.9	106.0	103.7	108.8	105.1	104.6
1982	114.1	+5.8	109.7	111.1	116.2	113.7	111.4	110.8

*Wholesale price index

Source: Statistisches Bundesamt, Germany

INDUSTRIAL PRODUCTION



Index of industrial production (1970=100)

Source: U.S. Department of Commerce

Value of shipments (in mil. $)

Period	All industries	Iron & steel	Nonferr. metals	Machs. nonel.	Machs. elec	Motor-vehicles	Chemicals	Textiles
1960	364,920	16,080	9,720	33,240	23,400	25,920	27,720	14,520
1970	630,715	25,032	21,423	55,859	48,137	42,537	49,253	22,338
1972	744,198	28,109	21,392	61,024	55,950	66,762	57,437	26,726
1973	856,778	35,260	26,539	73,380	63,497	77,278	67,034	30,531
1974	981,985	47,424	33,248	86,572	66,741	72,120	81,377	33,097
1975	992,687	40,353	24,156	89,485	64,388	73,220	85,967	32,941
1976	1,185,716	46,687	30,531	105,529	73,868	95,380	104,142	36,387
1977	1,335,072	51,519	40,877	119,008	85,759	117,758	113,891	40,821
1978	1,496,573	60,533	47,455	137,119	98,661	132,207	126,445	43,951
1979	1,692,001	68,663	54,650	157,695	110,713	129,364	149,481	46,992
1980	1,798,539	64,447	59,778	169,318	123,390	106,030	162,390	48,780
1981	1,997,775	51,678	62,101	182,837	125,907	114,909	169,099	46,167
1982	1,910,119	44,870	62,161	180,612	140,550	112,177	172,803	47,217

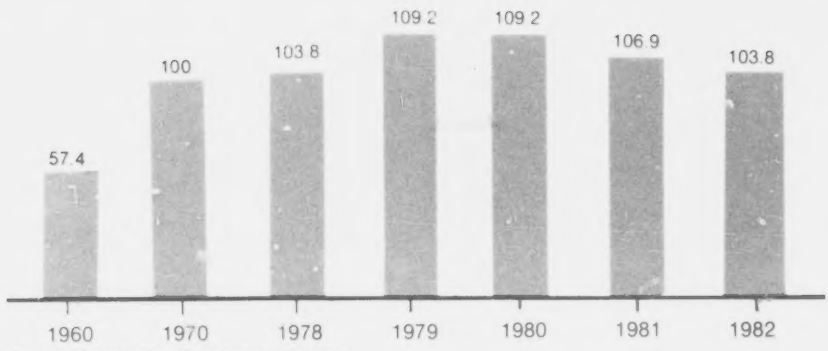
Source: U.S. Department of Commerce

Period	Coal	Steel	Alum.	Cement	Sulfuric acid	Plastics	Elec. energy (in bil. kWh)	Cars (in 1000 units
				(in mil short tons)				
1960	435	99.3	2,344	62.8	17.9	3.1	841.6	6,675
1970	613	131.5	4,757	76.1	29.5	9.4	1,639.8	6,547
1972	602	133.2	5,067	84.6	31.4	12.9	1,853.4	8,824
1973	599	150.8	5,567	87.5	31.5	15.1	1,947.1	9,658
1974	610	145.7	6,093	82.9	34.2	15.2	1,967.6	7,331
1975	654	116.6	5,035	69.7	32.4	12.4	2,001.0	6,713
1976	685	127.9	5,597	74.5	33.5	14.8	2,036.5	8,498
1977	698	125.3	6,130	78.7	35.8	17.3	2,124.1	9,201
1978	671	137.0	6,211	84.8	41.1	19.4	2,203.9	9,165
1979	781	136.0	6,499	84.9	43.1	21.0	2,247.2	8,419
1980	835	111.1	6,501	77.0	43.9	19.3	2,285.4	6,400
1981	814	119.9	6,601	76.2	40.4	28.5	2,292.8	6,225
1982	829	74.6	5,704	72.3	32.7	27.4	2,241.2	5,049

Source: U.S. Department of Commerce

INDUSTRIAL PRODUCTION

Index of Industrial Production
(real terms)
1976 = 100



Source: Statistisches Bundesamt, Germany

Value of Shipments by Industry (in mil. DM)

Period	All industries	Iron & steel	Nonferr. metals	Machs. nonel.	Machs. elec.	Motor-vehicles	Chemicals	Textiles
1960	266,373	20,107	4,564	24,475	19,353	16,577	22,360	16,482
1970	528,867	30,563	9,515	56,398	50,873	42,013	50,527	24,350
1972	596,014	28,179	9,194	62,968	60,299	48,037	56,738	26,476
1973	743,232	38,195	13,738	75,175	72,799	69,185	75,042	28,789
1974	836,052	50,438	16,513	83,030	79,584	67,705	100,169	29,986
1975	819,312	42,842	13,766	92,562	78,318	77,533	90,451	28,159
1976	916,950	43,493	16,084	96,155	85,716	94,902	104,084	30,754
1977	963,132	40,056	16,238	101,514	92,101	105,738	108,539	31,268
1978	999,924	40,433	16,614	105,262	96,716	114,817	110,611	31,043
1979	1,105,356	45,670	21,284	111,389	104,054	124,634	126,007	32,315
1980	1,196,544	47,450	25,333	122,782	112,762	126,924	126,478	33,025
1981	1,223,391	48,343	23,122	125,627	117,739	136,954	138,096	32,771
1982	1,345,750	47,837	24,371	127,844	121,089	142,222	144,531	33,811

Source: Statistisches Bundesamt, Germany

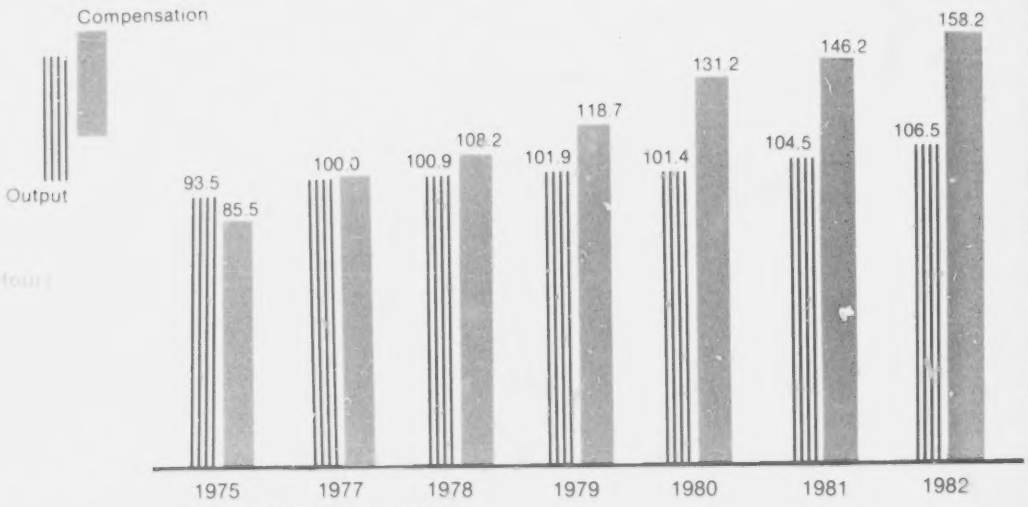
Production of Selected Commodities

Period	Coal	Steel	Alum.	Cement	Sulfuric acid	Plastics	Elec. energy (in bil. kWh)	Cars (in 1000 units)
	(in mil. metric tons)							
1960	142.3	33.4	0.169	24.9	2.6	1.0	116.4	1,817
1970	111.3	44.3	0.309	38.3	3.6	4.4	242.8	3,529
1972	102.5	43.2	0.445	43.1	3.9	5.5	274.8	3,513
1973	97.3	48.9	0.533	41.0	4.1	6.5	299.0	3,643
1974	94.9	52.6	0.689	36.0	4.2	6.3	311.7	2,840
1975	92.4	39.7	0.678	33.5	3.4	5.1	301.8	2,906
1976	89.3	41.8	0.697	34.2	3.8	6.5	333.6	3,548
1977	84.8	38.5	0.742	32.2	3.8	6.2	335.3	3,796
1978	83.9	40.8	0.740	33.5	3.8	6.7	353.4	3,903
1979	86.3	45.5	0.742	35.5	4.1	7.2	372.8	3,942
1980	87.1	43.3	0.731	39.6	6.7	6.9	368.8	3,533
1981	88.4	41.1	0.729	31.5	4.0	6.6	366.9	3,295
1982	89.0	36.8	0.723	30.0	3.1	6.3	365.7	3,504

Source: Statistisches Bundesamt, Germany

U.S.A.

PRODUCTIVITY AND LABOR COSTS IN MANUFACTURING



Source: U.S. Department of Labor

Productivity (1977 = 100)

Year	Output per Hour	Compensation per Hour	Unit Labor Costs
1975	93.5	85.5	91.4
1976	97.7	92.4	94.6
1977	100.0	100.0	100.0
1978	100.9	108.2	107.3
1979	101.9	118.7	116.5
1980	101.4	131.2	129.4
1981	104.5	146.2	140.0
1982	106.5	158.2	148.5

Source: U.S. Department of Commerce

Hourly Compensation of Production Workers

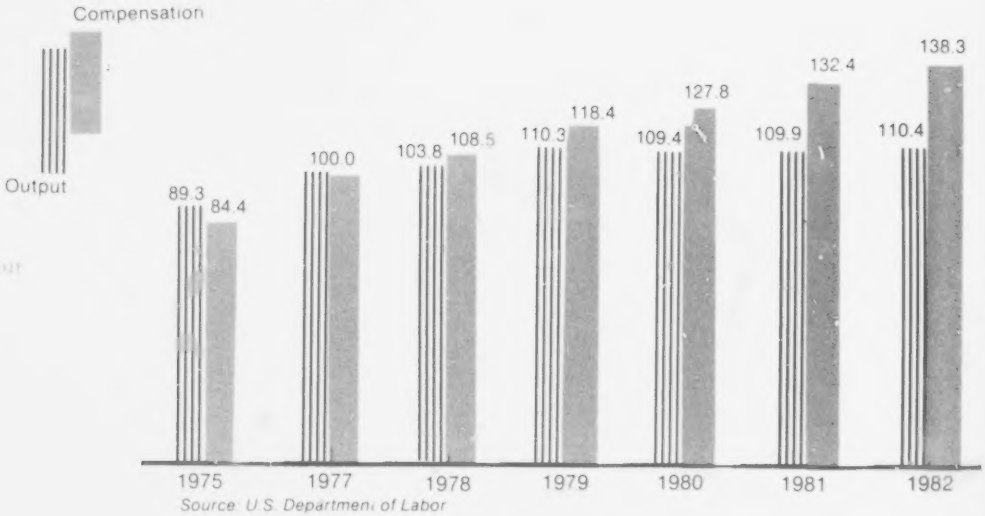
(in $)

Year	Average hourly earnings (in $)	Additional compensation (in % of hourly earnings)	Total compensation per hour (in $)
1975	4.83	31.4	6.35
1976	5.22	32.6	6.92
1977	5.68	33.7	7.59
1978	6.17	34.7	8.31
1979	6.69	35.5	9.06
1980	7.27	36.4	9.92
1981	7.98	36.9	10.06
1982	8.50	37.4	10.47

Source: U.S. Department of Labor

GERMANY

PRODUCTIVITY AND LABOR COSTS IN MANUFACTURING



Output and Compensation per Hour
(1982=100)

Source: U.S. Department of Labor

Productivity (1977 = 100)

Year	Output per Hour	Compensation per Hour	Unit Labor Costs
1975	89.3	84.8	95.0
1976	95.0	91.0	95.8
1977	100.0	100.0	100.0
1978	103.8	108.5	104.6
1979	110.3	118.4	107.4
1980	109.5	127.8	116.7
1981	109.9	132.4	122.8
1982	110.4	138.3	130.2

Source: U.S. Department of Commerce

Hourly Compensation of Production Workers
(in DM)

Year	Average hourly earnings (in DM)	Additional compensation (in % of hourly earnings)	Total compensation per hour (in DM)
1975	9.74	57.3	15.32
1976	10.39	59.2	16.54
1977	11.19	59.8	17.88
1978	11.76	60.8	18.91
1979	12.41	62.3	20.14
1980	13.36	63.4	21.67
1981	14.22	63.8	22.4
1982	14.77	64.1	22.86

Source: U.S. Department of Labor

U.S.A.

FOREIGN TRADE

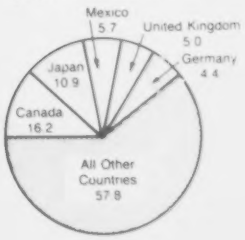
Source: U.S. Department of Commerce

By Commodity Groups (in mil. $)

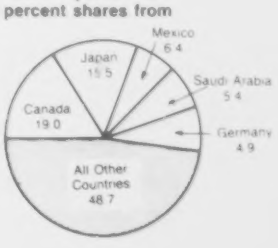
Imports				Exports		
1980	1981	1982	Commodity group	1980	1981	1982
15,738	15,237	14,453	Food and live animals	27,744	30,290	23,950
2,598	3,138	3,364	Beverages and tobacco	2,663	2,914	3,026
10,165	11,193	8,589	Crude materials inedible	23,791	20,992	19,248
78,756	81,416	65,409	Mineral fuels and lubricants	7,982	10,279	12,729
539	479	406	Oils and fats	1,946	1,750	1,541
8,402	9,447	9,494	Chemicals	20,740	21,187	19,986
32,250	37,291	33,148	Manufactured goods by chief material	22,255	20,632	19,891
60,659	69,627	73,319	Machinery and transport equipment	84,628	95,717	87,128
23,666	26,178	29,457	Miscellaneous manufactured articles	16,347	16,745	16,738
7,170	7,295	6,312	Items not classified by kind	8,496	8,388	12,911
241,461	261,304	243,951	Total	220,623	233,739	207,157

Source: U.S. Department of Commerce

U.S. Exports 1982 percent shares to



U.S. Imports 1982 percent shares from

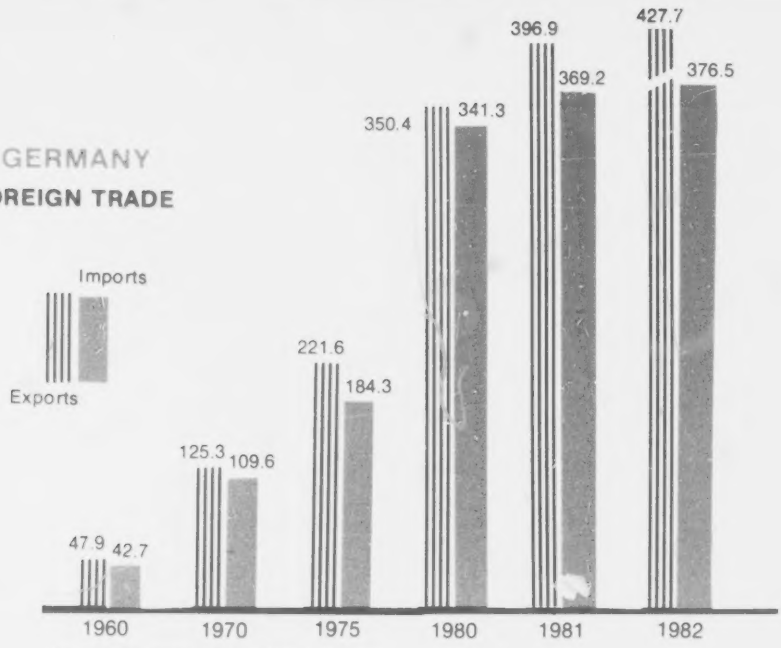


Major Partners (in %)	1980	1981	1982
IMPORTS:			
1. Canada	17.0	17.7	19.0
2. Japan	12.8	14.3	15.5
3. Mexico	5.2	4.4	6.4
4. Saudi Arabia	5.2	6.1	5.4
5. Germany	4.9	4.4	4.9
EXPORTS:			
1. Canada	16.0	16.9	16.2
2. Japan	9.4	9.3	10.9
3. Mexico	6.9	7.6	5.7
4. United Kingdom	5.8	5.3	5.0
5. Germany	5.0	4.4	4.4

Source: U.S. Department of Commerce

GERMANY

FOREIGN TRADE



Grand Total (in bil. DM)

Source: Statistisches Bundesamt, Germany

By Commodity Groups (in mil. DM)

Imports				Exports		
1980	1981	1982	Commodity group	1980	1981	1982
33,257	36,585	37,842	Food and live animals	15,108	18,915	19,415
3,405	3,808	4,077	Beverages and tobacco	1,795	2,260	2,562
26,507	26,327	26,066	Crude materials, inedible	7,179	7,975	7,588
76,106	89,776	88,366	Mineral fuels and lubricants	13,225	16,080	16,016
1,445	1,726	1,738	Oils and fats	1,541	1,756	1,710
24,164	27,469	29,159	Chemicals	44,130	49,454	51,349
61,023	59,201	59,285	Manufactured goods by chief material	71,190	76,934	80,197
63,720	72,592	76,475	Machinery and transport equipment	155,254	177,513	199,522
39,446	41,349	41,319	Miscellaneous manufactured articles	32,645	36,114	38,896
12,186	19,351	12,136	Items not classified by kind	8,339	9,896	10,485
341,259	369,179	376,464	Total	350,400	396,898	427,741

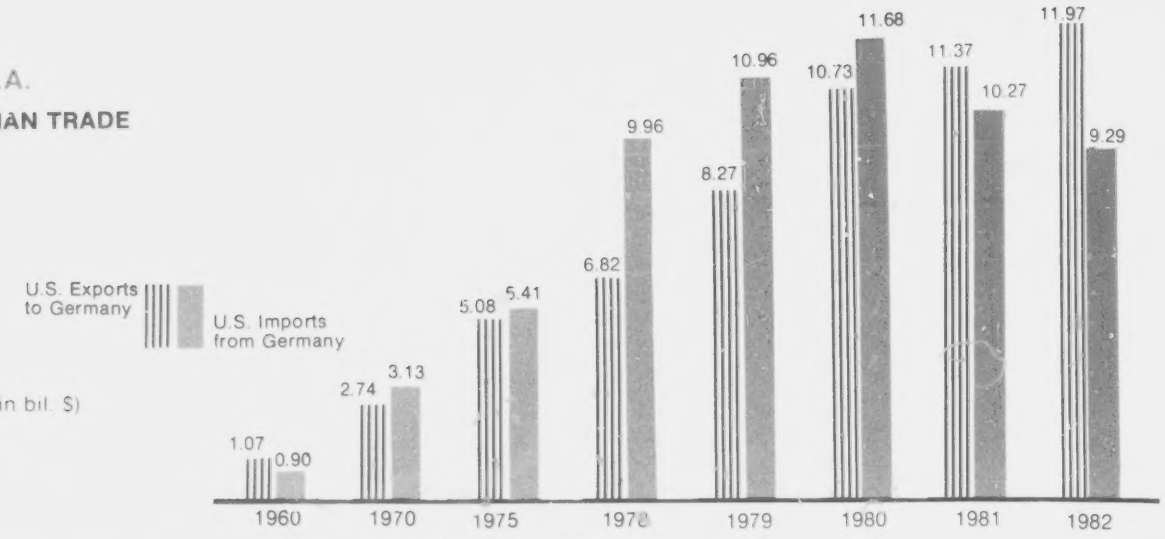
Source: Statistisches Bundesamt, Germany

Major Partners (in %)	1980	1981	1982
IMPORTS:			
1. Netherlands	11.5	12.0	12.2
2. France	10.7	10.9	11.4
3. Italy	7.9	7.5	7.6
4. United States	7.5	7.7	7.5
5. Belgium-Luxembourg	7.2	6.7	7.2
EXPORTS:			
1. France	13.3	13.1	14.1
2. Netherlands	9.5	8.5	8.5
3. Italy	8.5	7.9	7.6
4. Belgium-Luxembourg	7.8	7.3	7.3
5. United Kingdom	6.5	6.6	7.3

Source: Statistisches Bundesamt, Germany

U.S.A.

U.S. - GERMAN TRADE



Grand Total (in bil. $)

Source: U.S. Department of Commerce

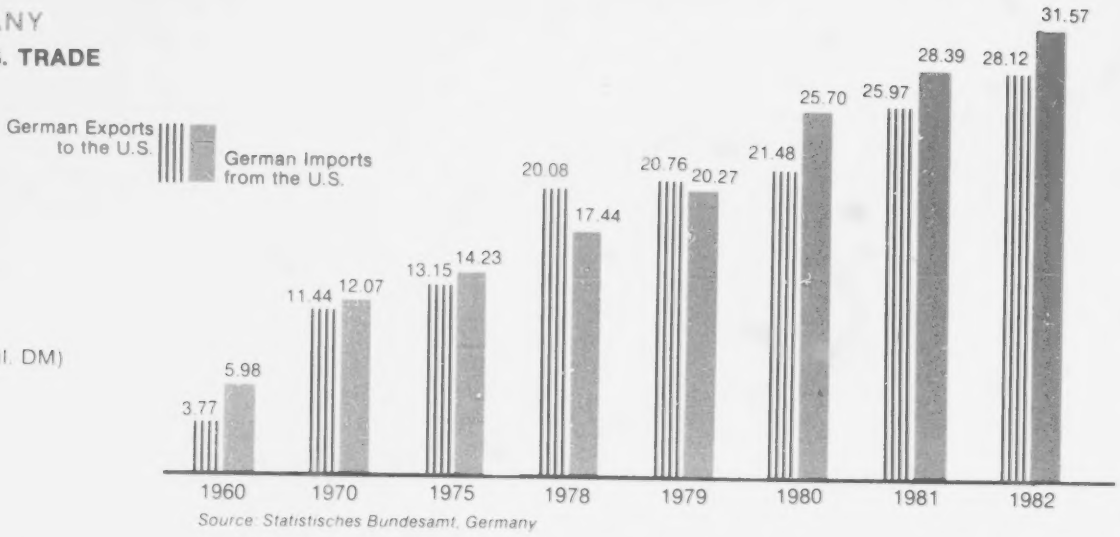
Major Items of U.S.—German Trade (in mil.$)

U.S. Exports to Germany				U.S. Imports from Germany		
1980	1981	1982		1980	1981	1982
10,732	10,276.7		Total	11,681	11,379	
14,161*	—			11,821*	—	
951.1	775.2	568.6	Food and live animals	168.8	143.4	156.9
31.2	23.5	17.1	Meat and prep.	2.5	—	1.6
6.4	7.0	5.4	Dairy products and eggs	16.0	23.3	26.2
19.8	13.0	9.8	Fish and prep.	1.5	1.7	2.1
223.8	207.4	120.4	Cereals and prep.	6.7	12.5	9.2
291.3	225.8	149.9	Fruits and vegetables	34.3	32.7	42.1
361.6	279.2	148.6	Animal feeding-stuffs	6.6	6.4	6.2
3.1	2.9	1.6	Coffee, cocoa, spices and prep.	69.3	20.7	40.7
246.0	224.1	208.8	Beverages and tobacco	145.5	159.0	182.0
—	—	—	Beer	43.4	54.7	71.3
2.0	1.8	2.2	Wine	97.3	101.0	101.8
9.7	9.6	10.6	Alcoholic beverages, distilled	2.1	2.4	4.7
234.1	198.4	198.1	Tobacco, raw and manufactured	2.1	1.8	0.8
1,500.3	1302.4	1358.5	Crude materials, inedible, exc. fuel	130.1	152.6	85.3
102.9	10.2	65.6	Hides, skins and furskins undressed	3.4	1.2	2.1
398.5	566.8	507.4	Soybeans	—	—	—
66.9	46.3	49.9	Rubber, incl. synthetic and reclaimed	3.3	0.1	5.6
134.6	97.2	83.2	Wood, lumber and cork	0.5	0.7	0.8
202.9	223.5	206.8	Pulps and waste paper	—	—	—
101.6	41.8	56.8	Raw textile fibers and their waste	11.7	23.5	5.8
84.7	53.1	77.8	Crude fertilizers and minerals	8.6	9.3	12.1
330.3	199.9	210.7	Metalliferous ores and metal scrap	88.5	92.6	43.6
112.3	99.5	42.7	Nonferrous metal scrap	64.9	15.1	22.7
18.4	20.4	18.6	Vegetable materials, crude	1.8	—	3.2
216.4	306.5	217.1	Mineral fuels and lubricants	26.3	41.0	98.8
136.5	229.8	137.9	Coal, coke and briquets	4.4	—	—
79.7	92.9	79.2	Petroleum and petroleum products	21.9	41.0	98.8
35.8	33.6	27.5	Oils and fats, animal and vegetable	2.5	2.5	1.6
35.0	23.6	23.8	Animal oils and fats	0.2	0.4	0.5
0.7	0.1	3.7	Vegetable oils and fats	1.1	0.9	1.1
850.8	857.7	1240.7	Chemicals	1,019.2	1,009.5	1,112.5
396.8	439.9	522.4	Organic and inorganic chemicals	512.0	531.7	564.2
25.9	31.3	27.3	Essent. oils, perfume materials, soaps	27.6	12.7	28.1
23.4	24.3	17.6	Dyeing, tanning and coloring materials	97.2	123.8	95.4
200.5	413.5	332.7	Radioactive materials	0.2	1.4	1.2
133.1	132.2	141.4	Medicinal and pharmaceutical products	92.1	99.5	83.7
142.9	116.0	80.1	Synthetic resins and plastic materials	149.4	112.5	127.5
79.1	91.1	99.2	Other chemical products	126.7	127.9	224.6

Continued

GERMANY

GERMAN-U.S. TRADE



Source: Statistisches Bundesamt, Germany

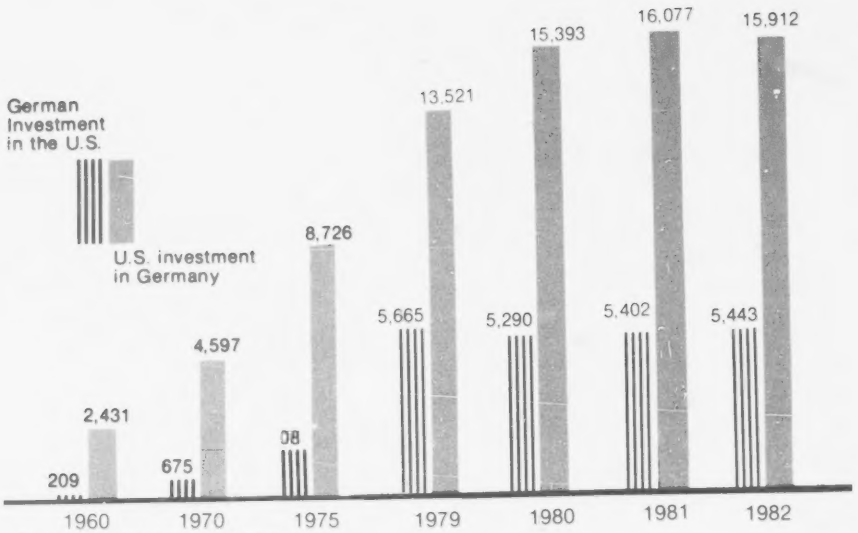
Major Items of U.S.—German Trade (in mil.$) (continued)

U.S. Exports to Germany				U.S. Imports from Germany		
1980	1981	1982		1980	1981	1982
990.9	648.5	573.5	Manufactured goods by chief material	1,493.0	2,206.3	2,093.1
24.6	10.2	16.4	Leather	18.4	18.7	19.9
9.8	9.9	9.8	Tires and tubes for tires	82.9	83.7	60.6
127.8	91.7	76.8	Textile yarn and fabrics	90.7	98.2	95.3
77.1	97.2	56.5	Wood and cork	6.8	3.4	7.9
142.9	113.7	98.4	Paper and paperboard	21.0	29.9	44.6
47.2	31.2	21.2	Iron and steel	557.1	1223.6	1164.8
295.7	99.5	84.7	Nonferrous metals	202.4	247.8	225.2
180.7	149.1	142.6	Metal manufactures	284.1	269.3	245.8
33.4	36.1	31.3	Glass	43.9	45.4	44.2
13.5	16.0	8.1	Glassware	39.5	40.9	47.2
2.7	2.1	1.2	Pottery	68.4	53.3	56.9
3,916.4	4467.8	3908.8	Machinery and transport equipment:	7,562.9	6,457.5	7,037.9
2,147.4	3096.2	3331.9	Machines, exc. electrical	2,956.6	3,228.0	3,764.7
987.0	646.3	576.9	Electrical machines and apparatus	644.7	473.5	555.5
782.0	1371.7	1007.2	Transport equipment	3,961.6	3,229.5	3,725.5
74.2	76.1	68.3	—Metalworking machinery	334.2	274.8	324.7
1,083.4	1093.3	46.5	—Office machines	195.1	185.2	201.1
50.7	40.4	31.0	—Agricultural machines	199.4	161.9	202.3
42.0	37.1	32.1	—Textile and leather machinery	249.2	238.9	235.3
291.5	370.5	331.4	—Other machs. for spec. industries	679.1	1059.5	1,125.1
374.6	372.4	371.1	—Other machinery	689.3	704.4	801.2
212.8	266.5	214.3	—Telecommunications apparatus	84.4	60.6	68.7
97.2	105.7	95.4	—El. medical and radiolog. apparatus	113.9	122.4	163.6
230.3	240.0	260.2	—Road motor vehicles and parts	3,889.0	3,229.5	3,640.8
533.0	1054.9	778.3	—Aircraft and spacecraft and parts	48.8	62.1	50.4
1,631.0	1104.9	955.3	Miscellaneous manufactured articles:	890.6	877.8	904.1
72.0	56.2	42.1	Clothing and accessories	22.9	23.9	26.4
4.5	4.4	1.9	Footwear	16.2	10.6	12.2
482.6	475.0	513.8	Prof., scientific and controlling instruments	277.4	263.4	278.4
210.6	129.2	119.9	Photo and motion picture supplies	52.7	60.7	172.8
3.4	3.1	3.9	Watches and clocks	52.0	49.6	43.1
68.1	79.0	85.4	Sound recorders, musical instruments	38.5	60.6	69.5
26.0	30.4	28.0	Printed matter	36.9	38.7	36.3
52.3	43.6	67.2	Rubber and plastic manufactures	116.1	121.2	121.4
116.1	88.4	59.5	Toys, sporting goods, baby carriages	38.6	37.0	36.7
511.9	30.2	19.0	Artworks, collectors pieces, antiques	61.3	40.0	36.0
14.6	12.1	10.0	Jewelry	22.5	22.6	25.9
256.5	211.3	233.7	Items not classified by kind	242.3	248.8	239.7

Source: U.S. Department of Commerce
**Statistisches Bundesamt, Germany*

U.S.A.

DIRECT INVESTMENT



Source: U.S. Department of Commerce

U.S. Direct Investment Abroad (in mil. $)
(cumulative, book value at year end)

	1976	1977	1979	1980	1981	1982
Total	136,809	149,848	186,760	213,468	227,342	221,343
By country:						
1. Canada	33,932	35,200	40,243	44,640	46,957	44,509
2. United Kingdom	15,137	17,434	23,539	28,099	30,086	30,785
3. Germany	10,497	11,071	13,521	15,393	16,077	15,912
4. Switzerland	5,762	6,101	9,699	11,276	12,437	13,272
5. Bermuda	3,869	—	9,906	10,874	10,353	11,199
6. Other countries	67,612	80,042	89,852	103,186	111,432	104,866
By industry:						
1. Petroleum	28,408	31,420	38,744	46,920	52,107	55,697
2. Finance, insurance, real estate	16,715	20,327	31,523	34,405	25,745	19,101
3. Trade	13,610	14,744	22,677	25,752	28,162	27,261
4. Machinery	17,091	18,655	20,924	23,299	16,728	15,857
5. Chemicals	12,183	13,466	16,878	19,044	20,000	20,092
6. Other industries	48,802	51,236	56,014	64,048	84,600	83,035

Source: U.S. Department of Commerce

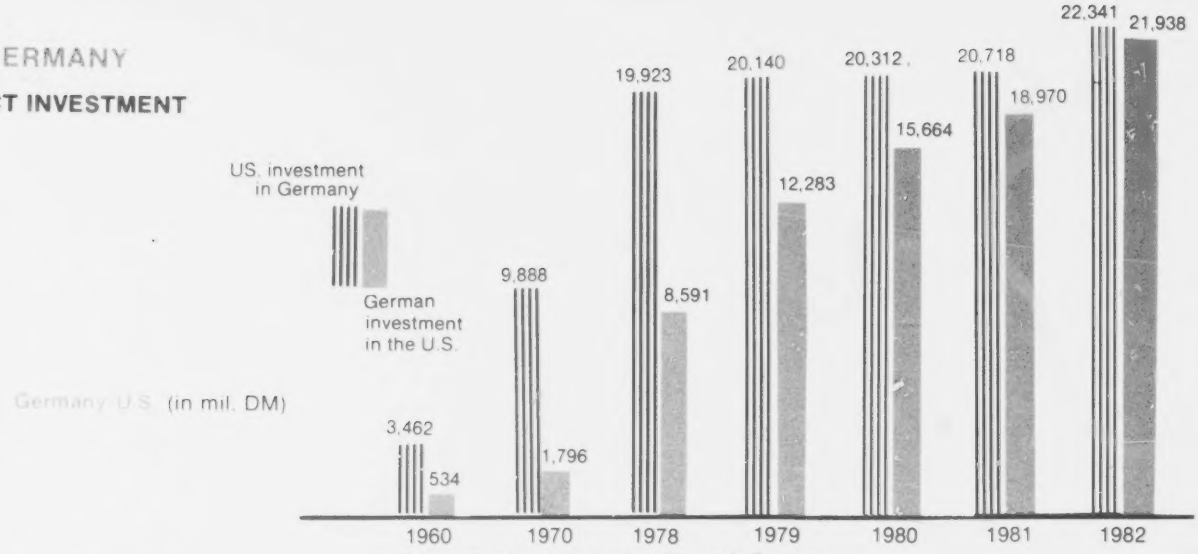
Foreign Direct Investment in the U.S.A. (in mil. $)
(cumulative, book value at year end)

	1976	1977	1979	1980	1981	1982
Total	30,770	34,595	54,462	65,483	68,351	76,951
By country:						
1. Netherlands	6,255	7,830	12,672	16,159	16,909	18,039
2. United Kingdom	5,802	6,397	9,796	11,342	12,242	14,502
3. Canada	5,907	5,650	7,154	9,810	10,074	10,964
4. Germany	2,097	2,529	5,665	5,290	5,402	5,443
5. Japan	1,178	1,755	3,493	4,219	4,225	4,825
6. Other countries	9,531	10,434	15,682	18,663	19,499	22,929
By industry:						
1. Trade	6,123	7,237	11,562	13,772	14,296	14,996
2. Petroleum	5,921	6,573	9,906	12,253	12,363	13,063
3. Finance and insurance	3,943	4,544	7,575	9,889	10,365	11,765
4. Chemicals	4,347	5,092	7,212	7,859	8,017	8.864
5. Food products	1,693	1,826	2,611	4,092	4,187	4,220
6. Other industries	8,743	9,323	15,596	17,618	19,123	24,023

Source: U.S. Department of Commerce

GERMANY

DIRECT INVESTMENT



Source: Bundesministerium fuer Wirtschaft, Germany

German Direct Investment Abroad (in mil. DM)
(cumulative, book value at year end)

	1977	1978	1979	1980	1981	1982
Total:	52,142	58,193	66,002	74,162	84,825	87,138
By country:						
1. United States	6,705	8,591	12,283	15,664	18,971	22,341
2. Belgium-Luxembourg	5,175	5,748	6,247	7,275	8,221	8,970
3. France	5,088	5,632	6,354	6,807	7,429	7,904
4. Switzerland	4,762	5,153	5,290	5,833	6,264	6,681
5. Brazil	4,039	4,463	4,996	5,359	6,093	6,696
6. Other countries	26,373	28,606	30,832	33,224	37,847	41,746
By industry:						
1. Chemicals	9,389	10,056	10,481	11,232	12,410	13,165
2. Finance and insurance	5,424	6,381	8,063	9,444	9,885	10,660
3. Electrical engineering	5,618	5,930	6,786	7,391	7,869	8,710
4. Iron and steel	4,061	4,779	5,643	5,867	6,210	6,718
5. Mechanical engineering	4,042	4,480	5,027	5,835	6,392	6,660
6. Other industries	23,608	26,567	30,002	34,393	42,059	42,225

Source: Bundesministerium fuer Wirtschaft, Germany

Foreign Direct Investment in Germany (in mil. DM.)
(cumulative, book value at year end)

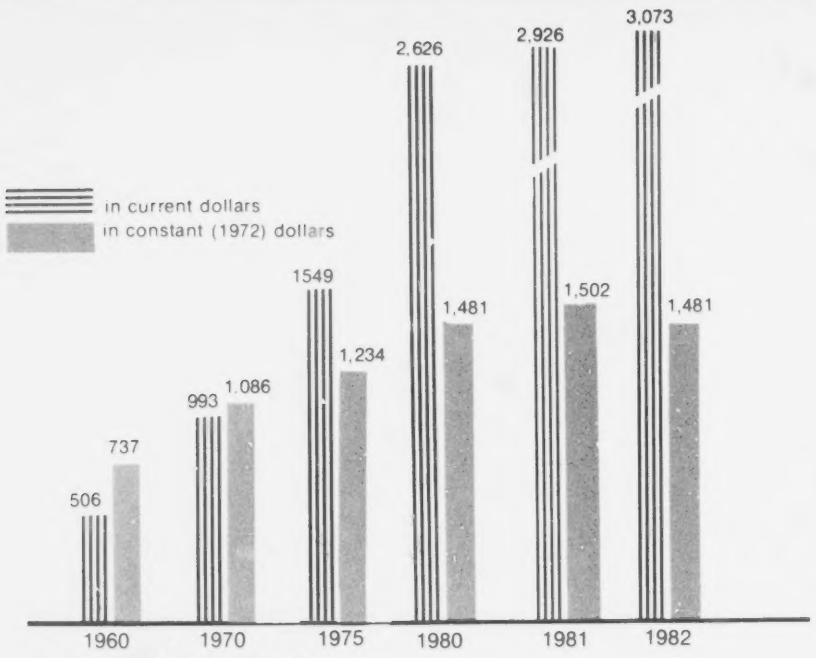
	1977	1978	1979	1980	1981	1982
Total	49,253	53,326	55,242	57,616	61,803	65,324
By country:						
1. United States	19,049	19,923	20,140	20,312	20,718	21,938
2. Switzerland	7,962	8,338	8,595	8,683	9,353	9,843
3. Netherlands	6,316	6,308	6,666	7,240	7,966	8,273
4. United Kingdom	4,771	5,492	5,855	6,764	7,612	7,676
5. France	2,884	3,158	3,245	3,420	3,701	4,131
6. Other countries	8,271	10,107	10,741	11,197	12,453	13,463
By industry:						
1. Holding companies	5,214	6,569	6,870	6,885	7,597	7,997
2. Petroleum	6,328	6,636	6,377	6,676	6,912	6,990
3. Finance and insurance	4,573	4,840	5,235	6,046	6,758	7,373
4. Chemicals	3,964	4,314	5,391	5,609	6,085	6,878
5. Electrical engineering	4,405	4,651	4,659	5,152	5,622	6,621
6. Other industries	24,769	26,316	26,824	27,248	28,829	29,466

Source: Bundesministerium fuer Wirtschaft, Germany

U.S.A.

GROSS NATIONAL PRODUCT

(in bil. $)



Source: U.S. Department of Commerce

GNP by Type of Expenditure

(at current prices)

Period	Gross national Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross Private Domestic Investment	Net Exports of Goods and Services
1960	506.0	+ 4.9	324.9	100.2	76.4	4.4
1970	992.7	5.2	621.7	220.1	144.2	6.7
1972	1,185.9	10.1	737.1	253.1	195.0	0.7
1973	1,326.4	11.8	812.0	270.4	229.8	14.2
1974	1,434.2	8.1	888.1	304.1	228.7	13.4
1975	1,549.2	8.0	976.4	339.9	206.1	26.8
1976	1,718.0	10.9	1,084.3	362.1	257.9	13.8
1977	1,918.0	11.6	1,205.5	394.5	322.3	- 4.2
1978	2,156.1	12.4	1,348.7	432.6	375.3	- 0.6
1979	2,413.9	12.0	1,510.9	473.8	415.8	13.4
1980	2,626.1	9.8	1,672.8	534.7	395.3	23.3
1981	2,925.5	8.8	1,857.8	591.2	434.4	26.0
1982	3,073.0	4.0	1,991.9	649.2	414.5	17.4

Source: U.S. Department of Commerce

GNP by Type of Expenditure

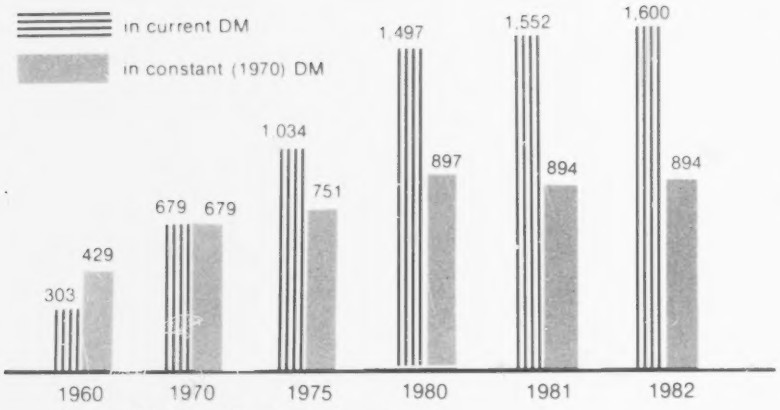
(at constant 1972 prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross Private Domestic Investment	Net Exports of Goods and Services
1960	736.8	2.3	453.0	172.9	105.4	5.5
1970	1,085.6	-0.2	672.1	251.1	158.6	3.9
1972	1,185.9	5.7	737.1	253.1	195.0	0.7
1973	1,255.0	5.8	768.5	253.5	217.6	15.5
1974	1,248.0	-0.6	763.6	261.2	195.5	27.8
1975	1,233.9	-1.1	780.2	266.7	154.8	32.2
1976	1,300.4	5.4	823.7	266.8	184.5	25.4
1977	1,371.7	5.5	863.9	272.3	213.5	21.9
1978	1,436.9	4.8	904.8	277.8	229.7	24.6
1979	1,483.0	3.2	930.9	281.8	232.6	37.7
1980	1,480.7	-0.2	935.1	290.0	203.6	52.0
1981	1,502.6	1.5	947.6	287.1	225.8	42.0
1982	1,485.4	-0.5	970.2	291.8	194.5	28.9

Source: U.S. Department of Commerce

GROSS NATIONAL PRODUCT

(in bil. DM)



Source: Statistisches Bundesamt, Germany

GNP by Type of Expenditure
(at current prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross Private Domestic Investment	Net Exports of Goods and Services
1960	303.0	11.7	171.8	40.7	82.5	7.9
1970	679.0	13.6	367.5	108.1	189.1	14.2
1972	827.2	9.4	447.7	144.0	216.9	18.5
1973	920.1	11.2	491.7	166.7	232.6	29.1
1974	9[illegible]9	7.3	527.5	194.0	221.9	43.4
1975	1,033.9	4.4	576.5	215.3	214.5	29.8
1976	1,125.0	8.7	623.6	227.2	231.9	28.6
1977	1,200.6	6.7	669.6	239.4	249.0	29.5
1978	1,290.7	7.5	713.9	257.1	273.0	37.2
1979	1,400.4	8.5	766.4	278.6	314.4	12.4
1980	1,497.5	6.9	819.5	303.4	351.0	-2.4
1981	1,551.9	3.6	860.9	325.8	353.8	12.2
1982	1,600.0	3.1	899.2	330.3	333.9	36.5

Source: Statistisches Bundesamt, Germany

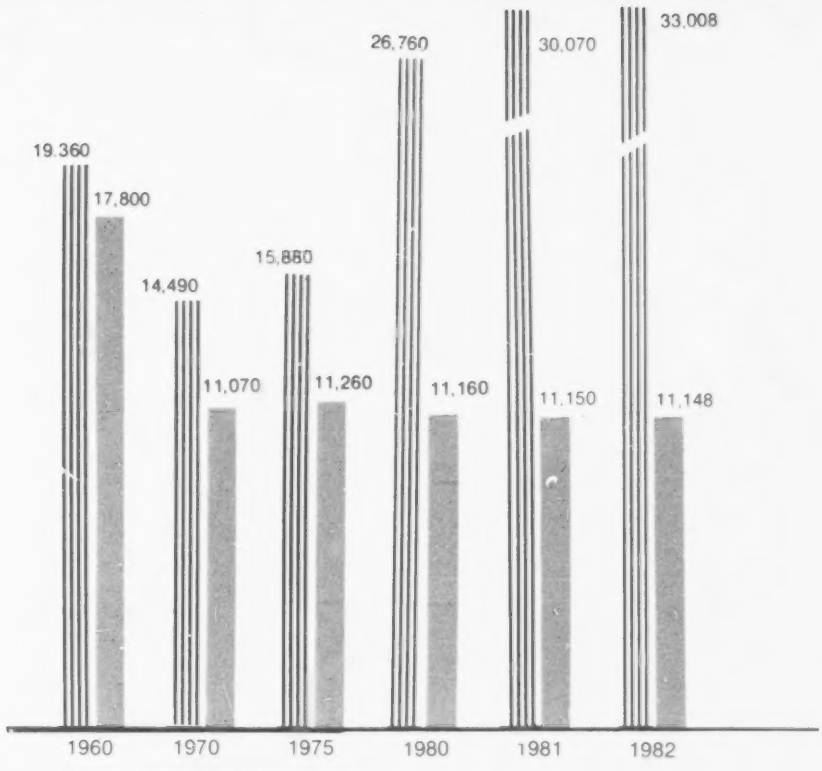
GNP by Type of Expenditure
(at constant 1970 prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross Private Domestic Investment	Net Exports of Goods and Services
1960	429.5	9.0	226.4	69.5	118.7	14.9
1970	679.0	5.9	367.5	108.1	189.1	14.2
1972	727.3	3.6	402.2	120.3	193.7	11.1
1973	763.0	4.9	412.5	126.8	197.8	25.9
1974	765.7	0.4	413.8	132.3	177.0	42.6
1975	751.5	-2.5	425.9	138.2	165.4	23.8
1976	792.0	5.3	441.0	141.0	173.2	26.6
1977	814.5	2.8	456.3	141.8	179.9	27.0
1978	843.5	3.6	474.4	147.8	189.1	25.7
1979	881.6	4.5	490.1	152.6	204.9	14.4
1980	897.5	1.8	497.5	156.3	212.6	14.4
1981	894.0	-3.8	493.2	160.1	205.3	35.9
1982	893.5	-0.5	494.0	162.4	201.4	44.9

Source: Statistisches Bundesamt, Germany

U.S.A.

INTERNATIONAL TRANSACTIONS



Monetary Reserves (in mil. $)

Source: International Monetary Fund

Balance on Current Account (in bil. $)

	1960	1970	1975	1979	1980	1981	1982
Balance on current account	2.8	2.4	18.3	1.4	3.7	6.6	- 8.1
Merchandise trade	4.9	2.6	9.0	-27.3	-25.3	-27.8	-36.3
Services	1.2	3.0	13.9	34.3	36.1	41.2	36.1
Transfer payments	-0.6	-1.6	- 4.6	- 5.6	- 7.1	-6.7	- 7.8

Source: U.S. Department of Commerce

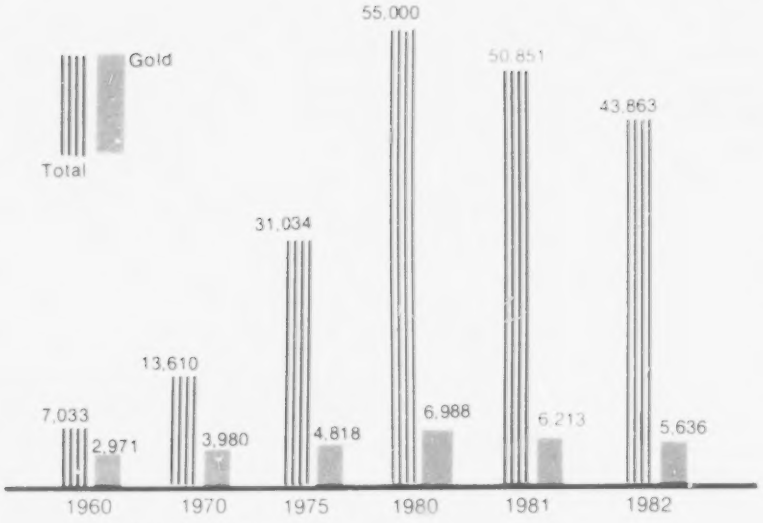
Currency Exchange Rates
(Value of DM in $)

Period		Official parity		Exchange rate average
1960		0.2381		-
1970		0.2732		-
1971		0.2732	(floating May-Dec. 1971)	0.2874
1972		0.3103		0.3136
1973		0.3448	(floating from March 19,1973)	0.3761
1974		-		0.3861
1975		-		0.4060
1976		-		0.3974
1977		-		0.4308
1978		-		0.4987
1979		-		0.5456
1980		-		0.5509
1981		-		0.4422
1982		-		0.4039
1983,	Jan.	-		0.4184
	Feb.	-		0.4132
	March	-		0.4147
	Apr.	-		0.4093
	May	-		0.4054
	June	-		0.3944

Source: Federal Reserve System
International Monetary Fund

INTERNATIONAL TRANSACTIONS

Monetary Reserves (in mil. $)



Source: International Monetary Fund

Balance on Current Account (in bil. DM)

	1960	1970	1975	1979	1980	1981	1982
Balance on current account	4.8	3.2	9.9	- 9.6	-29.8	-16.6	+ 8.1
Merchandise trade	5.2	15.7	37.3	22.6	9.0	27.7	+52.3
Services	3.2	- 1.1	- 8.3	-11.5	-14.7	-17.9	-27.6
Transfer payments	-3.5	- 9.8	-17.9	-20.7	-24.0	-27.2	-28.1

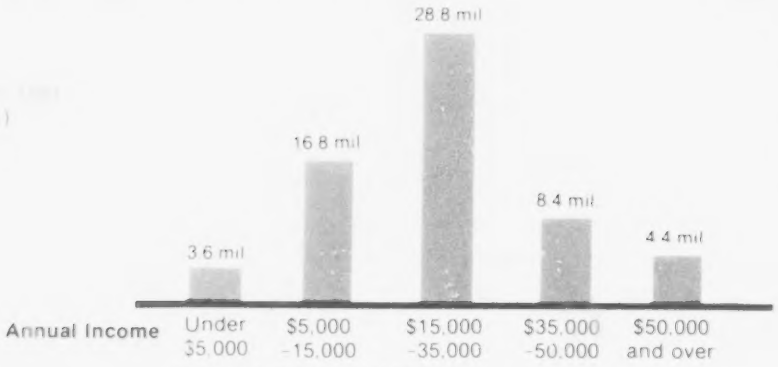
Source: Deutsche Bunderbank

Currency Exchange Rates
(Value of $1.00 in DM)

Period		Official parity		Exchange rate average
1960		4.2000		-
1970		3.6600		-
1971		3.6600	(floating May-Dec. 1971)	3.4795
1972		3.2225		3.1889
1973		2.9003	(floating from March 19,1973)	2.6590
1974		-		2.5897
1975		-		2.4631
1976		-		2.5173
1977		-		2.3217
1978		-		2.0084
1979		-		1.8330
1980		-		1.8158
1981		-		2.4287
1982		-		2.4287
1983,	Jan.	-		2.3884
	Feb.	-		2.4267
	March	-		2.4075
	Apr.	-		2.4387
	May	-		2.4682
	June	-		2.5475

Source: Deutsche Bundesbank

HOUSEHOLD AND FAMILY ACCOUNTS



Source: U.S. Department of Commerce

Urban Family Budgets (1981)

	Lower budget		Intermediate budget (4 persons)		Higher budget (4 persons)	
	$	%	$	%	$	%
Total	15,323	100.0	25,407	100.0	38,060	100.0
Income taxes	1,596	10.4	4,443	17.5	9,340	24.5
Social Security Taxes	1,036	6.8	1,703	6.7	1,993	5.2
Food	4,545	29.7	5,843	23.0	7,366	19.4
Housing	2,817	18.4	5,546	21.8	8,423	22.1
Transportation	1,311	8.6	2,372	9.3	3,075	8.1
Clothing, personal care	1,316	8.6	1,841	7.2	2,666	7.0
Health care	1,436	9.4	1,443	5.7	1,505	4.0
Other costs	1,265	8.3	2,217	8.7	3,690	9.7

Source: U.S. Department of Labor

Households Owning Selected Durables (in % of total households)

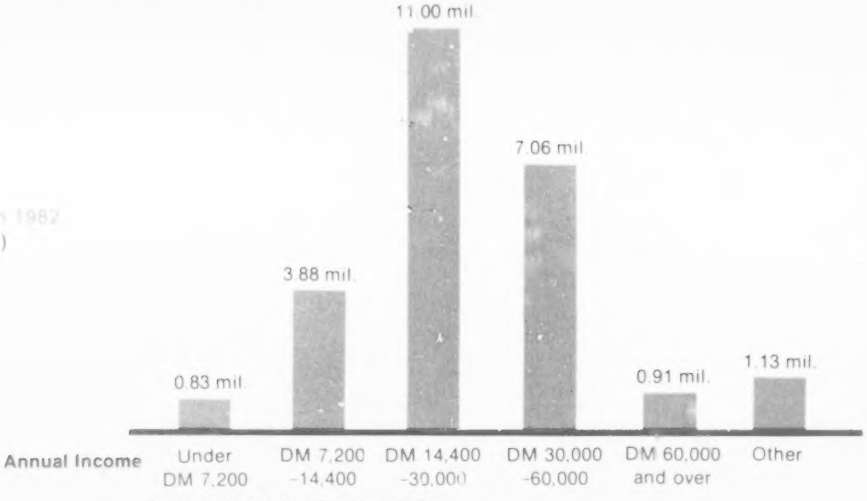
	1970	1975	1979	1980	1981	1982
One or more cars	43.3*	49.7*	53.4*	54.2*	55.4	56.7
TV set, black & white	98.7	99.9	99.9	99.9	99.9	99.9
Color TV	42.5	74.4	89.8	90.0	90.3	90.4
Refrigerator	99.8	99.9	99.9	99.9	99.9	99.9
Freezer	31.2	43.5	44.7	43.9	43.7	43.2
Washing machine, automatic	62.1	68.4	77.3	77.0	77.2	77.2
Telephone	92.0	95.0	97.0	97.5	97.8	97.9

Source: U.S. Department of Commerce
Merchandising, Gralla Publications
Motor Vehicle Manufacturers Association

*Number of cars per 100 population

HOUSEHOLD AND FAMILY ACCOUNTS

Household Income Distribution in 1982
(Households, total: 25.1 mil.)



Source: Statistisches Bundesamt, Germany

Urban Family Budgets 1982

	Lower budget (retired couple)		Intermediate budget (4 persons)		Higher budget (4 persons)	
	DM	%	DM	%	DM	%
Total:	17,940	100.0	47,916	100.0	78,708	100.0
Income taxes	-	-	5,172	10.6	12,276	15.0
Social Security Taxes	-	-	6,132	12.3	4,080	4.9
Food	5,147	33.5	8,688	17.9	10,728	13.7
Housing	3,576	22.9	5,340	10.7	7,752	9.8
Transportation	1,176	7.6	4,896	9.6	8,100	10.2
Clothing, personal care	864	5.6	2,724	6.0	4,392	5.7
Health care	756	4.9	1,068	2.1	3,216	4.2
Other costs	6,421	25.5	13,896	30.7	28,164	36.8

Source: Statistisches Bundesamt, Germany

Households Owning Selected Durables (in % of total households)

	1970	1975	1979	1980	1981	1982
One or more cars	51.0	74.3	81.9	82.2	83.3	85.4
TV set, black & white	89.4	81.5	58.3	57.1	52.4	51.6
Color TV	3.5	29.3	69.2	73.8	78.7	81.5
Refrigerator	94.4	98.7	88.0	84.0	82.0	82.0
Freezer	18.5	52.2	66.7	63.4	65.2	66.0
Washing machine, automatic	37.5	57.6	75.6	78.8	79.8	77.1
Telephone	19.9	46.8	81.2	86.4	89.6	90.6

Source: Statistisches Bundesamt, Germany

Information Sources...

Government

Embassy of the Federal Republic of Germany
4645 Reservoir Road N.W.; Washington D.C., 20007.

German Information Center
410 Park Avenue, New York, N.Y., 10022.

Embassy of the United States of America
53 Bonn-Bad Godesberg; Mehlemer Aue.

Bundesminister fuer Wirtschaft
53 Bonn-Duisdorf; Willemomblerstr. 76 - Ministry of Economic Affairs.

Bundesminister der Finanzen
53 Bonn 1; Graurheindorferstr. 108 - Ministry of Finance (incl. Department for Customs & Duties).

Presse-und Informationsamt der Bundesregierung
53 Bonn 1; Welckerstr. 11 - Public Relations Department of the Federal Government.

Statistisches Bundesamt
62 Wiesbaden; Gustav Stresemann Ring 11 - Federal Department of Documentation and Statistics.

Deutsches Patentamt
8 Muenchen 22; Zweibrueckenstr. 12 - Commissioner of Patents.

Bundeskartellamt
1 Berlin 61; Mehringdamm 129 - Federal Antitrust Agency.

Deutsche Bundesbank
6 Frankfurt/Main 50; Wilhelm-Epstein-Strasse 14 - German Federal Reserve Bank.

Public Authorities

Deutscher Normenausschuss
1 Berlin 30; Burggrafenstr. 4-7 - Determination Committee for Industrial Standards.

Bundesanstalt fuer Arbeit
85 Nuernberg; Regensburgerstr. 104 - Federal Employment Agency.

Binational Institutions

German American Chamber of Commerce
Main Office: 666 Fifth Ave., New York, N.Y. 10103. Branches: 2 Houston Center, Houston, Texas 77010; Suite 2701, Peachtree Center, Harris Tower, 233 Peachtree Street NE, Atlanta, Ga. 30303; 1 Farragut Square South, Washington, D.C. 20006. Regional Chambers; 77 Monroe Street, Chicago, Ill. 60603; 465 California Street, Suite 1228, San Francisco, Calif. 94104; 3250 Wilshire Blvd., Los Angeles, Calif. 90016.

European Community Information Service
2100 M Street N.W.; Washington, D.C. 20037.

Industrial and Trade Associations

Bundesverband der Deutschen Industrie
5 Koeln 51; Oberlaenderufer 84-88 - Association of German Industries.

Bundesvereinigung der deutschen Arbeitgeberverbaende e.V.
5 Koeln 51; Oberlaenderufer 72 - Umbrella Association of employers' organizations; counterparts of the Umbrella Organization of Labor Unions.

Deutscher Industrie-und Handelstag
53 Bonn 1; Adenauerallle 148 - Association of German Chambers of Industry and Commerce.

DGB Deutscher Gewerkschaftsbund Bundesvorstand
4 Duesseldorf 30; Hans Boecklerstr. 39 - Umbrella Organization of Labor Unions.

Bundesverband des deutschen Gross-und Aussenhandels
53 Bonn; Kaiser - Friedrich Str. 13 - Umbrella Organization of exporters/importers and wholesalers.

Hauptgemeinschaft des deutschen Einzelhandels e.V.
5 Koeln 1; Sachsenring 89 - Retailer Association.

Centralvereinigung deutscher Handelsvertreter und Handelsmaklerverbaende
5 Koeln 41; Geleniusstr. 1 - Umbrella Association of brokers, agents and representatives.

Gesamtverband der deutschen Versicherungswirtschaft
5 Koeln 1; Ebertplatz 1 - Association of the Insurance Industry.

Zentralausschuss der Werbewirtschaft e.V.
53 Bonn - Bad Godesberg; Villichgasse 17 - Association of Advertising Agencies and Public Relations.

Ausstellungs- und Messeausschuss der deutschen Wirtschaft e.V.[AUMA]
5 Koeln 1; Lindestrasse 8 - Organization of Congresses and Trade Fairs.

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